# EFFECTIVENESS OF YOGA ON RESILIENCE AMONG ADOLESCENTS AT SELECTED SCHOOLS IN MADURAI

**M.Sc (NURSING) DEGREE EXAMINATION**

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*A Dissertation submitted to*

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**CHENNAI – 600032**

*In partial fulfillment for the degree of*

**MASTER OF SCIENCE IN NURSING**

**APRIL - 2015**

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# ABSTRACT

**Title: Effectiveness of yoga on resilience among adolescents in selected schools at Madurai. Objectives:** To assess the level of resilience among adolescents at selected schools both in experimental and control group; to evaluate the effectiveness of yoga on resilience among adolescents in selected schools at Madurai and to associate the level of resilience among adolescents with their selected socio demographic variables. **Hypotheses:** There is a significant difference between the pretest and posttest score among adolescents in experimental group; there is a significant association between the level of resilience among adolescents with their selected socio demographic variables. **Conceptual framework:** Modified Imogene Kings Goal attainment theory. **Methodology:** Quasi experimental non equivalent control group pretest- posttest design was used. The study was conducted at selected schools in Madurai. 60 subjects were selected by purposive sampling. The 14- items Resilience Scale was administered for pretest. Yoga was performed by the experimental group about 60 minutes daily for 6 weeks. Post test was conducted with same scale a day after 6 weeks. **Results:** The findings revealed that there was a significant increase in resilience level after intervention by dependent 't' test ($t=9.608$; $p< 0.001$); independent 't' test ($t=10.599$; $p< 0.001$). Association between post test score of resilience with educational status of mother was Significant at $p< 0.05$ level. Also educational status of father, birth order and parental support were significantly associated at 0.01level. **Conclusion:** Yoga was effective on increasing the resilience level among adolescents studying in a school.

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# CHAPTER - I

# INTRODUCTION

**"Although the world is full of suffering**
**it is also full of the overcoming of it.**
**For we carry within us the wonders we seek"**

**- Helen Keller, 1998**

Adolescence is a period of transition between childhood and adulthood- a time of rapid physical, cognitive, social, and emotional maturing as the boy prepares for manhood and girl prepares for womanhood. Except for the newborn and early infancy, no period of the human life- span encompasses more dramatic changes than does adolescence.

Adolescents are described as the young people between the age of 10 and 19 years and are considered as the transitional stage from childhood to adulthood. Adolescents are vulnerable by virtue of the normal development process. Biological changes that take place during puberty to include other major changes that occur at varying rates. These include changes in sexual characteristics, body image, sexual interest, career development, intellectual development and self-concept. Role changes increasing the vulnerability.

World Health Organization (2014) "Health for the world's adolescents" report reveals that depression is the predominant cause of illness and disability for both boys and girls aged 10 to 19 years. The top three causes of adolescent deaths globally are road traffic injuries, Human Immuno Deficiency Virus /Acquired Immune Deficiency Syndrome, and suicide. Worldwide, an estimated 1.3 million adolescents died in 2012.

Adolescence can be a time of both disorientation and discovery. The transitional period can bring up issues of independence and self-identity; many adolescents and their peers face tough choices regarding schoolwork, sexuality, drugs, alcohol, and their social life. Peer groups, romantic interests and external appearance tend to naturally increase in importance for some time during a teen's journey toward adulthood. Adolescence is an important time for laying the foundations of good health in adulthood. Many health-related behaviours and conditions that underlie the major non -communicable diseases start or are reinforced during this period of life.

Nevertheless, many adolescents do die prematurely due to accidents, suicide, violence, pregnancy related complications and other illnesses that are either preventable or treatable. Many more suffer chronic ill-health and disability. In addition, many serious diseases in adulthood have their roots in adolescence. For example, tobacco use, sexually transmitted infections including Human Immuno Deficiency Virus, poor eating and exercise habits, lead to illness or premature death later in life.

Globally, depression is the number one cause of illness and disability in this age group, and suicide ranks number three among causes of death. Some studies show that half of all people who develop mental disorders have their first symptoms by the age of 14.

Globally, there were 49 births per 1000 girls aged 15 to 19, according to 2010 figures. Half of all mental health disorders in adulthood appear to start by age 14, but most cases are undetected and untreated. Around 1 in 6 persons in the world is an adolescent: that is 1.2 billion people aged 10 to 19. Complications linked to pregnancy and childbirth is the second cause of death for 15-19-year-old girls globally. Some 11% of all births worldwide are to girls aged 15 to 19 years, and the

vast majorities are in low- and middle-income countries. The 2014 World Health Statistics put the global adolescent birth rate at 49 per 1000 girls this age - country rates range from 1 to 229 births per 1000 girls.

The burden of morbidity and mortality from non-communicable disease has risen worldwide and is accelerating in low-income and middle-income countries, whereas the burden from infectious diseases has declined. Since this transition, the prevention of non-communicable disease as well as communicable disease causes of adolescent mortality has risen in importance. Problem behaviours that increase the short-term or long-term likelihood of morbidity and mortality, including alcohol, tobacco, and other drug misuse, mental health problems, unsafe sex, risky and unsafe driving, and violence are largely preventable. In the past 30 years new discoveries have led to prevention science being established as a discipline designed to mitigate these problem behaviours.

Health for the world's adolescents is a World Health Organization report fully addressing that question across the broad range of health needs of people ages 10–19 years. It was presented to Member States at the 2014 World Health Assembly in follow-up to its 2011 Resolution 64.28, Youth and health risks. The report brings together all World Health Organization guidance concerning adolescents across the full spectrum of health issues. It offers a state-of-the-art overview of four core areas for health sector action such as providing health services, collecting and using the data needed to plan and monitor health sector interventions, developing and implementing health-promoting and health-protecting policies and mobilizing and supporting other sectors.

Longitudinal studies have provided an understanding of risk and protective factors across the life course for many of these problem behaviours. Risks cluster

across development to produce early accumulation of risk in childhood and more pervasive risk in adolescence. This understanding has led to the construction of developmentally appropriate prevention policies and programmes that have shown short-term and long-term reductions in these adolescent problem behaviours.

Adolescents have a strong for freedom and independence. But often it is obstructed by parental oppositions. In Indian context, parental opposition may extend to such areas as choices of friends, choice of education, recreational interests, dress, life-style, our of going from and coming to the home, mode of behaviour etc. The conflict between parental norms of behaviour and peer group relationships often lead to friction in the relationship and adolescents find it difficult to adjust to the needs and demands of parents. Failure to adjust with the parents may result in revolting against parents and authority.

In our society, the adolescent is considered as neither as a child nor as an adult. He has to depend his parents and elders for his physical and emotional needs. But at the same time he wants to hold independent views and opinions like an adult. He can very well manage his own affairs and resist any unnecessary interference from the part of elders. He begins to feel ashamed and embarrassed for the protection and care shown by the parents. He is often treated in an ambiguous manner by parents and teachers. Sometimes they expect him to behave as an adult and at other times, they treat him as a child. The poor adolescent is caught between the role of the child and the adult, which push him into confusion and tension.

Adolescence is a time for developing independence. Typically, adolescents exercise their independence by questioning their parents' rules, which at times leads to rule breaking. Parents and doctors must distinguish occasional errors of judgment from a degree of misbehavior that requires professional intervention. During

adolescence the parent- child relationship changes from one of protection-dependency to one of mutual affection and equality. Parents guide rather than directly control the adolescents' actions. Adolescents who feel warmth and support from their parents are less likely to engage in risky behaviors.

Authoritative parenting is a parenting style in which children participate in establishing family expectations and rules. This parenting style, as opposed to harsh or permissive parenting, is most likely to promote mature behaviors. Authoritative parents typically use a system of graduated privileges, in which adolescents initially are given small bits of responsibility and freedom (such as caring for a pet, doing household chores, picking out clothing, or decorating their room).

Most of the adolescents face a great problem in adjusting with school discipline. Sometimes schools expects too much from students who must submit to teachers who may be tyrannical sometimes. Schools should not implant habits of unquestioning obedience that inhibits the growth of young people towards true independence. Tensions of attending the classes, examinations and tests, low Intelligent Quotient feeling, fear about failure in examination, fear about low score, fear and concern about a future career, and misconceptions about teachers.

Due to many problems faced during adolescence, the boys and girls of the age between 8 -16 form a separate category by themselves. Their problems are specific to themselves. Most of the problems faced by them are perceptional. By timely and effective guidance - many of their problems could be solved. Some of them may need medical / psychiatric attention. In India, the parents influence their behaviour, thoughts and are in position to solve many problems - if they have positive approach. Some problems during adolescence are decisive in building the personalities (positive

and negative) - who may or may not utilize the opportunities open to them during their later life.

Positive social relationships, particularly with multiple friends, relatives, and neighbors, create resiliency. Resilient adolescents have positive relationships with adults who convey that they care by mentoring, listening non judgmentally, helping, and being fair. Peer relationships are also important: positive social relationships can promote learning and positive feelings toward school and academics, and negative social relationships can have the opposite effect. Finally, adolescents resilience is fostered when their teachers, school administrators, and parents have positive relationships with one another. Positive attitudes that promote resiliency include encouraging oneself to try, being determined to persevere until success is attained, applying a problem solving approach to difficult situations, and fostering feelings of hardiness.

Richardson and his colleagues (1990) contended that resiliency is the process of coping with disruptive, stressful, or challenging life events in a way that provides the individual with additional protective and coping skills than prior to the disruption that results from the event. Similarly Higgins (1994) described resiliency as the process of self-righting or growth, while Wolins (1993) defined resiliency as the capacity to bounce back, to withstand hardship, and to repair yourself.

The concept of resilience has strong intuitive appeal. When we see someone conquer a strongly negative circumstance, it is not uncommon to feel that something special or intrinsic to that person was responsible. If one tree is grove resists a wind storm, we attribute a quality of strength of the tree. Even though all the students are exposed to a stress, only few may develop psychological problems others may not. Resilience is both an individual's capacity to navigate to health promoting resources

and a condition of the individual's family, community, and culture to provide those resources in meaningful ways. (Ungar, 2008)

Resilient people respond to life's challenges with courage and emotional stamina, even when they are afraid. Downturns become challenges to face head-on and overcome. Even though have no control over many events in our life—accidents, natural disasters, crime, illness, the economy, etc. Resilience can be strengthened by enhancing resiliencecore, which is made up of the five essential characteristics of resilience: Meaningful life (purpose), Perseverance, Self reliance, Equanimity and Coming home to yourself (existential aloneness).

Having a sense of one's own meaning or purpose in life is probably the most important characteristic of resilience, because it provides the foundation for the other four characteristics. Life without purpose is futile and aimless. Purpose provides the driving force in life. When we experience inevitable difficulties, our purpose pulls us forward.

Perseverance is the determination to keep going despite difficulties, discouragement, and disappointment. Repeated failure or rejection (and the discouragement that follows) can be formidable roadblocks in life. They can prevent from moving forward and attaining goals. Resilient individuals are good at overcoming roadblocks. They tend to finish what they begin. Resilience is the ability to bounce back when knocked down, and this takes perseverance. It is always tempting to give up, or take the easy path. It takes courage and emotional stamina to fight the good fight, and resilient people clearly demonstrate this ability. Establishing and adhering to a routine is one way to strengthen perseverance. Setting realistic goals and attaining them builds perseverance.

Equanimity means balance and harmony. Resilient people learn to avoid extreme responses and 'sit loose in the saddle.' Resilient people understand that 'it is an ill wind that blows no good.' Life is neither all good nor all bad. People who respond with resilience recognize this and are open to many possibilities. This is one of the reasons resilient people are described as optimistic, because even when the situation looks doubtful, they are probably on the lookout for opportunities. Resilient people have also learned to draw on their own and others' experiences and wisdom, and to use this to guide their responses. Equanimity also manifests itself in humor. Resilient individuals can laugh at themselves and their circumstances.

Self-reliance is a belief in yourself, with a clear understanding of your capabilities and limitations. It comes from experience and the 'practice, practice, practice' that leads to confidence in your abilities.

Throughout our lifetime, we encounter challenges that we meet successfully. At other times, we fail. Self-reliant individuals have learned from these experiences and have developed many problem-solving skills. Furthermore, they use, adapt, strengthen, and refine these skills throughout life. This increases their self-reliance.

Resilient individuals learn to live with themselves. They become their own best friends. This is what 'coming home to yourself' means. We must face alone much of what we face in life; if we are content with ourselves, this is easier. Coming home is a journey that begins with getting to know yourself well. Being existentially alone does not deny the importance of shared experiences, nor does it demean significant and close relationships with others. It does mean that you must accept yourself as you are, warts and all. We have much to contribute to the world around us. Many people fail to recognize this about themselves and are filled with despair. A resilient individual will recognize his or own worth. They are able to 'go it alone' if necessary.

Resilience is composed of particular factors attributed to an individual. There are numerous factors, which cumulatively contribute to a person's resilience. The primary factor in resilience is having positive relationships inside or outside one's family. It is the single most critical means of handling both ordinary and extraordinary levels of stress. These positive relationships include traits such as mutual, reciprocal support and caring. Such relationships aid in bolstering a person's resilience.

Individuals who are resilient control their own behavior and are considerate of themselves and others. They self-regulate performance by preparing ahead and appraising their success after completing tasks. Finally, resilient individuals perceive themselves as competent in academics, athletics, the arts, or other areas because of past successes.

Adolescents need to be cared for and supported by adults in school, at home, and in the community to develop resilience. Schools that promote resilience also promote positive peer relationships and prosocial behaviors, such as helping, sharing, cooperating, collaborative problem solving, and treating others with respect and courtesy. Positive peer relationships are fostered through an emphasis on learning rather than competition. This emphasis can be supported by well-designed and interesting cooperative learning projects in which all students must contribute to the final learning product. When students help others, they develop resiliency. Violence prevention, anti bullying, peer mediation programs, and initiatives that encourage students to accept and sponsor less popular students all foster resiliency according to Doll, Zucker, & Brehm, 2004.

Highly resilient people are flexible, adapt to new circumstances quickly, and thrive in constant change. Most important, they expect to bounce back and feel confident that they will. They have a knack for creating good luck out of

circumstances that many others see as bad luck. Fostering resilience is an important in school.

Further, schools that foster resiliency also promote positive relationships between home and school. Such relationships do not require parental attendance at school functions, but they do require proactive and regular formal and informal two-way communication between home and school for collaborative priority setting and early interventions so students fully understand that the adults in their lives agree upon the importance of academic success. By offering intramural sports, aerobics and yoga classes, and other noncompetitive athletics, administrators can promote regular exercise, which not only improves physical health but also decreases the anxiety, anger, and depression that result from adversity.

Studies show that maintaining positive emotions whilst facing adversity promote flexibility in thinking and problem solving. Positive emotions serve an important function in their ability to help an individual recover from stressful experiences and encounters. That being said, maintaining a positive emotionality aids in counteracting the physiological effects of negative emotions. It also facilitates adaptive coping, builds enduring social resources, and increases personal well-being. This is not to say that positive emotions are merely a by-product of resilience, but rather that feeling positive emotions during stressful experiences may have adaptive benefits in the coping process of the individual. Empirical evidence for this prediction arises from research on resilient individuals who have a propensity for coping strategies that concretely elicit positive emotions, such as benefit-finding and cognitive reappraisal, humor, optimism, and goal-directed problem-focused coping. Individuals who tend to approach problems with these methods of coping may

strengthen their resistance to stress by allocating more access to these positive emotional resources.

Brigham and Women's Hospital and Harvard Medical School in Boston said that since mental health a disorder usually develops in teenage years: Yoga may serve a preventive role in adolescent mental health. strengthening the resilience traits helps the adolescents to manage these problems.

Adolescence is an important time for the development of mental health, including healthy coping responses to stress. Several types of school-based stress management and wellness programs have been developed with the goal of encouraging healthy coping strategies and resilience among teens. One promising approach is yoga, which combines strength and flexibility exercise with relaxation and meditation/mindfulness techniques. Studies have shown benefits of yoga in a wide range of mental and physical health problems, including a growing body of evidence showing positive effects in children and teens.

Yoga is considered as a Complementary and Alternative System of Medicine interventions. Though the figures vary a good proportion of patients with depression currently seeking allopathic medical treatment also have in the past sought or even are concurrently receiving one or the other forms of Complementary and Alternative System. Yoga developed thousands of years ago, is recognized as a form of mind-body medicine. In yoga physical postures and breathing exercises improve muscle strength, flexibility, blood circulation and oxygen uptake as well as hormone functions. In addition, the relaxation induced by meditation helps to stabilize the autonomic nervous system with a tendency towards parasympathetic dominance. Physiological benefits which follow help yoga practitioners become more resilient to

stressful conditions and reduce a variety of important risk factors for various diseases, especially cardio-respiratory diseases.

Yoga is a way of life. It is predominantly concerned with maintaining a state of equanimity at all costs. According to Yoga philosophy, by cleansing one's mind and controlling one's thought processes one can return to that primeval state, when the individual self was nothing but a part of the Divine. In Sanskrit, the term yoga stands for union. A yogi's ultimate aim is to be able to attain this 'union' with the Eternal Self with the help of certain mental and physical exercises.

Yoga involves a series of both moving and stationary poses, combined with deep breathing. As well as reducing anxiety and stress, yoga can also improve flexibility, strength, balance, and stamina. Practiced regularly, it can also strengthen the relaxation response in the daily life. Chronic stress inhibits learning. Restful yogic practices, such as savasana (relaxation) and pranayama (breathing techniques), can invoke the relaxation responses in the autonomic nervous system, allowing learning to progress more effectively. Postures such as eagle pose and twisting triangle are cross-median movements that help to coordinate communication between the right and left hemispheres of the brain. This can aid in improved reading and spelling skills. Balance poses improve concentration and focus. Mindfulness helps to alleviate unhelpful negative emotions that hinder memory function. Increase resilience and decrease reaction time.

Yoga has been shown to increase the level of gamma-aminobutyric acid is a chemical in the brain that helps to regulate nerve activity. Gamma-aminobutyric acid activity is reduced in people with mood and anxiety disorders, and drugs that increase Gamma-aminobutyric acid activity are commonly prescribed to improve mood and decrease anxiety.

The study by Chris Streeter from Boston University School of Medicine (Massachusetts) and colleagues demonstrates that increased Gamma-aminobutyric acid levels measured after a session of yoga postures are associated with improved mood and decreased anxiety. Their findings establish a new link between yoga, higher levels of Gamma-aminobutyric acid in the thalamus, and improvements in mood and anxiety based on psychological assessments. The authors suggest that the practice of yoga stimulates specific brain areas, thereby giving rise to changes in endogenous antidepressant neurotransmitters such as Gamma-aminobutyric acid.

## 1.1 NEED FOR THE STUDY

Drawing on a wealth of published evidence and consultations with 10 to 19-year olds around the world, the report also brings together, for the first time, all World Health Organization guidance on the full spectrum of health issues affecting adolescents. These include tobacco, alcohol and drug use, Human Immuno deficiency Virus infection, injuries, mental health, nutrition, sexual and reproductive health, and violence. The report recommends key actions to strengthen the ways countries respond to adolescents' physical and mental health needs.

Based on the finding of the latest Office for National Statistics Child and Adolescent Mental Health Survey which was published in 2004, 3.3% or about 290,000 children and young people have an anxiety disorder, 0.9% or nearly 80,000 children and young people are seriously depressed, 5.8% or just over 510,000 children and young people have a conduct, and 1.5% or just over 132,000 children and young people have severe Attention Deficit Hyperactive Disorder.

Summer M. Berman and colleagues estimated in 2000 that 37 percent of Americans between the ages of fifteen and twenty-four, many of whom are college students, have a diagnosable mental illness. The fact that the age of onset for many

major illnesses is the years from eighteen to twenty four, the range in which most traditional-age students fall, further complicates the matter. Higher education must realize that a large percentage of college students are, or will be, affected by mental illness. These disorders range from mild and short-lived to chronic and severe, including such illnesses as depression, anxiety, schizophrenia, and bipolar disorder, and appear at varying rates on campuses.

According to the Stress in America survey. Meanwhile, teens report that stress is having an impact on their performance at home, work and school. Their self-reported stress levels were higher than that reported by adults. Among the findings, 83 percent of teens said that school was "a somewhat or significant source of stress." Twenty seven percent reported "extreme stress" during the school year, though that number fell to 13 percent during summer. And 10 percent felt that stress had had a negative impact on their grades. Forty percent of teens reported feeling irritable or angry during the previous month, and 36 percent reported feeling nervous or anxious. Girls reported feeling generally more stressed-out than boys: They were more depressed, sad and irritable due to stress and they felt less able to manage it.

Having more than 243 million adolescents the highest in the world the key challenge that India faces is ensuring the nutritional, health and educational needs of this population, particularly girls. Over the past two decades, rapid economic growth with real gross domestic product averaging 4.8 per cent between 1990 and 2009 has lifted millions out of poverty. This, combined with government programmes, had led to improved health and development of the country's youth, who account for almost 20 per cent of the population. However, many challenges remain for the youthful population, particularly girls. They face gender disparities in education and nutrition, early marriage and discrimination, especially against those belonging to the socially

excluded castes and tribes. These are among the barriers of advancing the development and protecting the rights of young people, according to the State of the World's Children 2011 report released by the United Nations Children Fund.

In 2005, almost 16% of high school students in the United States reported carrying a weapon at least once during the month before they took part in a study about youth risks. Violence prevention begins in early childhood with violence-free discipline. Limiting exposure to media violence may also help because exposure to these violent images has been shown to increase violence in school-age children. School-age children should have access to a safe school environment. Older children and adolescents should not have access to weapons and should be taught to avoid high-risk situations (such as places or settings where others have weapons or are using alcohol or drugs) and to use strategies to defuse tense situations.

Healthy People 2010 of United States Department of Health and Human Services, 2005 progress reports identified adolescents as one of the population groups that is exposed to greatest risk. Use of the Youth Risk Behavior Surveillance Survey and other data sources have resulted in the inclusion of eight of the ten leading health indicators identified by Healthy People 2010. These indicators include areas that pose risks to adolescents including 21 critical adolescents' objectives (e.g. unintentional injury, violence, substance abuse, etc.).

The Office for National Statistics 2004 survey covering England, Scotland and Wales found that one in ten children and young people aged between 5 and 16 had a clinically-recognizable mental health disorder, with one in five of those having more than one of the main types of disorder (Green et al, 2005). The percentage of children experiencing mental disorders increased from childhood into adolescence. The two most common disorders in the 11 to 16 age range were found to be conduct disorder

and emotional disorder (anxiety and depression). Conduct disorders were more common in boys (8.1%) than girls (5.1%), whereas emotional disorders were more common in girls (6.1%) than boys (4.0%).

It is noteworthy that the category of conduct disorder only applies in childhood, but it is argued that ‘a substantial proportion of children and adolescents with conduct disorder grow up to be antisocial adults, leading impoverished and destructive lifestyles’ (Scott, 2005). Kim-Cohen et al (2003) suggest that childhood conduct disorder is also associated with many major mental health problems in adulthood.

School constitutes a large part of an adolescent's existence. Difficulties in almost any area of life often manifest as school problems. Particular school problems include fear of going to school, absenteeism without permission (truancy), and dropping out, academic underachievement. School problems during the adolescent years may be the result of rebellion and a need for independence (most common), mental health disorders, such as anxiety or depression, substance use, and family conflict. Between 1% and 5% of adolescents develop fear of going to school. This fear may be generalized or related to a particular person (a teacher or another student) or event at school (such as physical education class). Adolescents who are repeatedly truant or drop out of school have made a conscious decision to miss school. These adolescents generally have poor academic achievement and have had little success or satisfaction from school-related activities. They often have engaged in high-risk behaviors, such as having unprotected sex, taking drugs, and engaging in violence.

United Nation International Child Emergency Fund Representative in India Karin Hilshof said the initiation of the Sabla scheme, providing a holistic package of services for adolescent girls, was a huge step forward. Sabla meant empowerment and

an empowered adolescent girl would have the ability to transform not only her own life but of those around her.

In Times of India (2000) Dr.Yamuna said that right kind of advocacy must be given at all levels and especially at rural areas where the awareness level was low. Academics, she said, must be made pleasurable by steering clear of mark-based pressure. Urging parents to treat their adolescent children as infants, they must learn to respect their children's desire for privacy and independence. Appreciation and encouragement from parents would go a long way in boosting their self-confidence level and keeping them away from addictive drugs.

Adversity can come in the shape of family or relationship problems, health problems, or workplace and financial stressors, among others. Individuals demonstrate resilience when they can face difficult experiences and rise above them with ease. Resilience is not a rare ability; in reality, it is found in the average individual and it can be learned and developed by virtually anyone. Resilience should be considered a process, rather than a trait to be had. There is a common misconception that people who are resilient experience no negative emotions or thoughts and display optimism in all situations. Contrary to this misconception, the reality remains that resiliency is demonstrated within individuals who can effectively and relatively easily navigate their way around crises and utilize effective methods of coping. In other words, people who demonstrate resilience are people with positive emotionality; they are keen to effectively balance negative emotions with positive ones.

Resiliency, or resilience, is commonly explained and studied in context of a two-dimensional construct concerning the exposure of adversity and the positive adjustment outcomes of that adversity (Luther & Cicchetti, 2000). While the construct

of resilience is examined across various studies and scholarly articles, there is little consensus as to how researchers define adversity, let alone what defines positive adjustment outcomes. Resiliency is also defined as a positive adaptation is considered in a demonstration of manifested behavior on social competence or success at meeting any particular tasks at a specific life stage (Luthar & Cicchetti, 2000). With respect to the school setting, scholars often use school achievement or results from state testing as a measure of positive adjustment outcomes (Jew, Green & Kroger, 1999).

Resilient students who have positive attitudes believe that when they try, they will succeed. Positive emotions, such as love and gratitude, increase resiliency because they serve as a buffer against depression and other negative reactions. Resilient people recognize and express all emotions, even negative ones, but do so appropriately.

Effective from January 2006, the Joint Commission of Accreditation of Healthcare Organizations put forth new requirements that address "building resilience" for the current behavioral health care standards among recovery programs. These new standards address not only facilitating recovery, but building resilience and increasing one's ability to successfully cope with challenges. This provides a platform to assist professionals working with adolescents in recovery and other at-risk environments.

When young people are resilient, they cope better with difficult situations. They 'bounce back' when things go wrong. Young people need resilience to navigate life's ups and downs, so building resilience is an important part of adolescent development. Empathy, respect for others, kindness, fairness, honesty and cooperation are also linked to resilience. This includes showing care and concern to people who need support, accepting people's differences, being friendly and not

mistreating or bullying others. If your child shows these attitudes and behaviour towards others, he's more likely to get a positive response in return. This helps him feel good about himself. Resilience is about being realistic, thinking rationally, looking on the bright side, finding the positives, expecting things to go well and moving forward, even when things are bad. Feeling confident, capable and ready to get things done are big parts of resilience. Important skills in this department are goal-setting, planning, being organized and self-disciplined, being prepared to work hard and being resourceful.

Resiliency gives students the ability to deal with challenges and adapt to new or difficult circumstances in a positive, productive manner. There are number of ways for schools to foster resilience. Yoga is one among them in fostering resilience among adolecsnts.

Khalsa (2004) stated that a majority of the research on yoga as a therapeutic intervention was conducted in India and a significant fraction of these were published in Indian journals, some of which are difficult to acquire for Western clinicians and researchers. In their bibliometric analysis from 2004, they found that 48% of the enrolled studies were uncontrolled, while 40% were Randomized Clinical Trials, and 12% Non- Randomized Clinical Trials. Main categories which were addressed were psychiatric, cardiovascular, and respiratory disorders.

Yoga provides many benefits for all children, especially those with special needs. Physically, they can work on their flexibility, strength, coordination and body awareness. This may be beneficial for children who are struggling with specific physical conditions or ailments, including, but not limited to cancer. Children can gain a direct and physical understanding of calm and relaxation. While learning yoga, children not only exercise, they play and enhance their relationship with the world.

Yoga fosters skills for self-health, relaxation and inner fulfillment that may help children to negotiate the challenges of life with ease.

Yoga classes have positive psychological effects for high-school students, according to a pilot study in the April Journal of Developmental & Behavioral Pediatrics, the official journal of the Society for Developmental and Behavioral Pediatrics. Since mental health disorders commonly develop in the teenage years, Yoga may serve a preventive role in adolescent mental health, according to the new study, led by Jessica Noggle of Brigham and Women's Hospital, Harvard Medical School, Boston.

The application of yoga as a therapeutic intervention, which began early in the twentieth century, takes advantage of the various psycho physiological benefits of the component practices. The physical exercises (asanas) may increase patient's physical flexibility, coordination, and strength, while the breathing practices and meditation may calm and focus the mind to develop greater awareness and diminish anxiety, and thus result in higher quality of life. Other beneficial effects might involve a reduction of distress, blood pressure, and improvements in resilience, mood, and metabolic regulation. Academic performance is concerned with the quantity and quality of learning attained in a subject or group of subjects after a long period of instruction. Excessive stress hampers students' performance. Improvement in academic performance and alertness has been reported in several yogic studies.

S. Rajeswari1 & j. O. Jeryda Gnanajane Eljo (2013) conducted a study on emotional adjustment of adolescent school students. The researcher has used descriptive research design by adopting disproportionate random sampling method and collected data from 200 adolescent students which constitute 107 girls an 93boys. Adolescent's Emotional Adjustment Inventory developed by Dr. R. V. Patil (1989)

was adopted and the reliability co-efficient under split half method is 0.82.The findings of the study revealed that there exists low level of emotional adjustment ability among the adolescent school students. There is a significant association between the number of siblings and the emotional adjustment ($\chi 2=6.705$ $P < 0.05$) of the respondents. There is a significant difference between the type of family and the level of emotional adjustment ($z=0.026$, $P<0.05$) of the respondents and the respondents in nuclear family type have high level of emotional adjustment problems.

The investigator is interested in understanding how some people do such wonders in their life even if they don't have any supportive background. They change the negative in to positive. Similarly in school, some children have creativity in making an obstacle as their stepping stones and succeed. Many of the children may come from well family background but they don't have much positive adaptation. However the children who come from low socio economic family perform better and achieve more. The investigator understands that resilience is the key factor which behinds every success. The resilient children find the opportunities in the adversity circumstances. They also bounce back and easily adapt with any situation. Due to the advancement in technologies the world becomes highly competent. Academic achievement is the vital component for deciding about future carrier of every child.

Now a day, the school going adolescents develops more coping difficulties due to parental pressures and social expectations. So the investigator decided for the intervention which fosters resilience among adolescents studying in school. The investigator found that Yoga was effective in fostering resiliency among adolescent school going children. For developing positive adaptation among adolescents the investigator interested to do the research on evaluating the effectiveness of yoga on resilience.

## 1.2 STATEMENT OF THE PROBLEM

A study to evaluate the effectiveness of Yoga on Resilience among adolescents at selected schools in Madurai.

## 1.3 OBJECTIVES

- To assess the level of resilience among adolescents in experimental group at Government Higher Secondary school, Paravai in Madurai.
- To assess the level of resilience among adolescents in control group at Government Higher Secondary School, Munichalai in Madurai.
- To evaluate the effectiveness of yoga on resilience among adolescents in experimental group at Government Higher Secondary school, Paravai in Madurai.
- To associate the level of resilience among adolescents with their selected socio demographic variables.

## 1.4 RESEARCH HYPOTHESES

- $H_1$: There is a significant difference between the pretest and post test score of resilience after yoga intervention among adolescents in experimental group.
- $H_2$ : There is a significant association between the level of resilience among adolescents with their selected socio demographic variables

## 1.5 OPERATIONAL DEFINITION

### Effectiveness

It refers to the outcome of yoga improving the level of Resilience among adolescents in a selected school at Madurai, and is measured by Resilience Scale of Gail M. Wagnild & Heather M. Young (1987).

**Yoga**

In this study yoga refers to performing a simple yogic exercises, Asanas, Breathing regulation ( pranayama), Mantra yoga, Guided Meditation, Anantha yoga and Savasana for 60 minutes daily able to improve the resilience level.

**Resilience**

In this study resilience refers to positive adaptation of an individual from negative circumstances. Resilience of the individual is given by the score obtained by him / her on the Resilience Scale of Gail M. Wagnild & Heather M. Young (1987)

**Adolescents**

In this study adolescents are refers to the School children aged between 13-15 years who are studying 9$^{th}$ standard in Government Higher secondary school, Paravai and Government Higher Secondary School, Munichalai at Madurai.

## 1.6 ASSUMPTION

- There is a low resilience groups among adolescents.
- Yoga can be performed by the adolescents safely.
- Yoga may be one of the interventions which develop positive adaptation among adolescents.

## 1.7 DELIMITATION

- The study is limited to the adolescents with the age group of 13-15 years.
- The study period is limited to 6 weeks
- The study is limited to school Settings
- The study is limited to Government schools.

## 1.8 PROJECTED OUTCOME

The finding of the study is expected that yoga intervention will increase the level of resilience among adolescents.

# *Review of Literature*

# CHAPTER-II

# REVIEW OF LITERATURE

Polit (2012) states that literature review is a critical summary of research on a topic of interest, often prepared to put a research problem in context. A literature review is an evaluative report of information found in the literature related to your selected area of study (Wikipedia).

A literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. It focuses on the relationship among different works, and relates the research to ones topic of interest. This chapter presents the review of literature and the conceptual framework which guided the study.

The chapter II is comprised of two parts.

PART-A: Review of Literature

PART-B: Conceptual framework

## PART-A: REVIEW OF LITERATURE

This chapter discuss about the related literature in to four sections. Reviews are collected on the basis of following headings:

2.1 Literature review related to resilience among adolescents.

2.2 Literature review related to yoga among adolescents

2.3 Literature review related to effectiveness of yoga on Resilience among adolescents

## 2.1 LITERATURE REVIEW RELATED TO RESILIENCE AMONG ADOLESCENTS

**Tol Wa, Song.S, Jordans MJ (2014)** was done a meta- analysis of peer reviewed qualitative and quantitative studies focused on resilience and mental health in children and adolescents. Altogether 53 studies were identified. 15 qualitative and mixed methods studies and 38 quantitative, mostly cross-sectional studies focused on school-aged children and adolescents. Qualitative studies identified variation across socio-cultural settings of relevant resilience outcomes. Quantitative studies focused on promotive and protective factors at different socio-ecological levels like individual, family, peer, school, and community levels. The study suggested that resilience-focused interventions will need to be highly tailored to specific contexts for the children and adolescents.

**Farzaneh et al (2013)** conducted a cross-sectional study to determine the relationship between the perceived stress with resilience in undergraduate nursing students. During the first semester of 2012-2013 using the stratified sampling method, 309 undergraduate nursing students of Tehran University of Medical Sciences were selected. Data were collected using the Perceived stress scale and the Connor-Davidson Resilience Scale. The data were analyzed using descriptive and inferential statistics. Findings revealed that most of the students (99.3%) had a moderate or high perceived stress. There was a statistically significant relationship between the perceived stress with the resilience ($P< 0.001$)

**Lin K. K, Sandler I. N., AyersT. S, Wolchik S. A, & Luecken, L. J (2010)** conducted a non- experimental study on resilience in parentally bereaved children and adolescents seeking preventive services. The community-based sample included 179 bereaved children ages 8 to 16 years. Forty-four percent of bereaved children were

classified as resilient and 56% as affected based on the absence of clinically significant mental health problems. Multivariate analyses were done. Results indicated that higher levels of caregiver warmth and discipline and lower levels of caregiver mental health problems were family-level variables that significantly differentiated resilient children from affected children. Bereaved children's perceptions of less threat in response to negative events and greater personal efficacy in coping with stress were child-level variables that differentiated resilient from affected status.

**Perez, W., Espinoza, R., Ramos, K., Coronado, H. M., & Cortes, R. (2009)** conducted a descriptive study on academic resilience among Latino students. The data was collected from 104 Latino students. Regression and cluster analyses were used. The results indicated that despite specific risk factors like elevated feelings of societal rejection, low parental education, and high employment hours during school. Students who had high levels of personal and environmental protective factors such as supportive parents, friends, and participation in school activities reported higher levels of academic success than students with similar risk factors and lower levels of personal and environmental resources.

**Wong, D. F. K. (2009)** conducted an exploratory study to assess the resilience in differential impacts of stressful life events and social support on the mental health of Mainland Chinese immigrant and local youth in Hong Kong. Two hundred and ten local and immigrant youths between the age of 15 and 20 were individually interviewed by the trained interviewers. A structured questionnaire which consisted of The Chinese Adolescents Life Events Checklist, The Perceived Satisfaction of Social Support Scale and The Brief Symptoms Inventory was used. The findings revealed that immigrant youth had better mental health and similar levels of stress than local

youth. Moreover, peer support was found to exert a strong impact on the mental health of immigrant youth.

**Carlton, B. S et al, (2009)** conducted a non experimental study on resilience, family adversity and well-being among Hawaiian and non-Hawaiian adolescents. This study examined resiliency indicators in Hawaiian adolescents. Existing data from the Native Hawaiian Mental Health Research Development Program were used. These data included information from a community sample of five high schools on three islands from the state of Hawai'i. The sample included 1,832 students, where 64% were Native Hawaiian and 36% were non-Hawaiian. This study found that Native Hawaiian youth experienced more family adversity compared with non-Hawaiians, but Native Hawaiians were also more likely to have higher levels of family support. The findings were shown that most resiliency factors were family support and physical fitness/health.

**Teresa D. LaFromboise, Dan R. Hoyt, Lisa Oliver and Les B. Whitbeck (2009)** conducted an exploratory study to assess the Family, community, and school influences on resilience. Data were collected from a baseline survey of 212 adolescents studied fifth to eighth grades. Regression analysis was used to examine the predictors of pro-social outcomes among youth who lived in moderate- to high-adversity households. The analyses identified key risk and protective factors. The study findings revealed that having a warm and supportive mother, perceiving community support, and exhibiting higher levels of enculturation were each associated with increased likelihood of pro-social outcomes.

**Sharon Teresa Steyn (2009)** conducted a qualitative study on Resilience among adolescents. The research was undertaken with white adolescent learners between Grades 8 and 12, in a former Model-C secondary school. The Vulnerability

Questionnaire and the Resilience Questionnaire were given to twelve educators who were requested to select the participants for the study. The findings were shown that adolescents possessing the personal attributes and environmental support which serve as a buffer against adversity would demonstrate a greater propensity to be resilient than adolescents who do not possess these attributes and who do not have the necessary support. Furthermore, it is expected that the adolescent who is resilient will achieve well academically and socially.

**Teri Aronowitz (2009)** studied the role of "Envisioning the Future" in the development of resilience among at-risk youth. The design was exploratory using grounded theory to understand the process from the teens' perspectives. Semi structured interviews were conducted with 32 individuals on two occasions. The participants used the basic social process "envisioning the future" to become resilient and stop engaging in risk behaviors. Participants in this study became resilient despite environmental stressors by setting higher expectations for themselves and feeling self-confident. The findings of this study provided information regarding the specific behaviors that promote positive outcomes in at-risk youth and suggested for ways in which public health nurses can facilitate these behaviors in both the youth and their mentors.

**Davey, M., Eaker, D. G., & Walters, L. H. (2009)** conducted a correlational study on resilience processes in adolescent's personality profiles, self-worth, and coping. The study examined the potential for different associations of two correlates of resilience (self-worth and coping) with a third (personality dimensions). Totally 181students studied 11th-grade students were participated. Cluster analysis was used. The study found that combination of being extroverted, agreeable, and open to new experiences was associated with high self-worth. Additionally, positive coping was

also associated with compensatory mechanisms for adolescents who were high on disagreeableness and emotional instability.

**Les B. Whitbeck, Dan R. Hoyt, Jerry D. Stubben and Teresa LaFromboise (2009)** conducted a study on Traditional Culture and Academic Success among American Indian Children in the Upper Midwest. The research examined the factors affecting school success for a sample of 196 students studied fifth to eighth grade. The regression model included age, gender, family structure, parent occupation and income, maternal warmth, extracurricular activities, enculturation, and self-esteem. The findings are discussed in terms of resiliency effects of enculturation for American Indian children. The results indicated that traditional culture positively affects the academic performance of fifth-eighth grade children.

**Finn, J. D., & Rock, D. A. (2009)** conducted a non experimental study to evaluate academic success among students at risk for school failure. A sample of 1,803 minority students from low-income homes was classified into 3 groups on the basis of grades, test scores, and persistence from Grade 8 through Grade 12; the classifications were academically successful school completers ("resilient" students), school completers with poorer academic performance (non-resilient completers), and non-completers (dropouts). Groups were compared in terms of psychological characteristics and measures of school engagement. Significant differences were found among groups on engagement behaviors, even after background and psychological characteristics were controlled statistically. The findings revealed that student engagement is an important component of academic resilience.

**Heinzer, M. M. (2008)** conducted a cross-sectional correlational study on attachment and coping after a loss of parent in a model of adolescent resilience. The

study objective is to examine the adolescent resilience after parental death in childhood and its relationship to attachment and coping. Resilience was operationalized as social competence, global self-worth, and health. Sixty-two adolescents were interviewed using self-report instruments. Pearson product moment correlation and multiple regression analyses were used to test hypotheses. The findings were shown that adaptive coping was a significant predictor of the measures of resilience. Correlations were significant between attachment and coping.

**Smith, J., & Prior, M. (2008)** conducted a non experimental study on temperament and stress resilience in school-age children. Stress resilience was assessed in 81 school-age children, from within 32 families acknowledging severe psychosocial stress. Resilient and non resilient children, identified via competence and behavior disorder measures from school and home, were compared. The study revealed that individual differences in child and family attributes that were predictive of competent child functioning varied according to the outcome measure used. Also the level of maternal stress and individual differences in child intelligence were related to academic adjustment. The findings emphasized the salience of a positive temperament as a resilience factor.

**Luthar S.S, Carol H. Doernberge and Edward Zigler (2008)** conducted a prospective study on resilience dimensional construct among of inner-city adolescents. The maintenance of high social competence despite stress was examined in a 6-month study of 138 inner-city ninth-grade students. Measurements of stress were based on uncontrollable negative life events. Competence was assessed via behavioral indices including school grades, teacher ratings, and peer ratings, and emotional distress was measured via self-reports. Results indicated that high-stress children who showed impressive behavioral competence were highly vulnerable to

emotional distress over time. Furthermore, almost 85% of the high-stress children who seemed resilient based on at least one domain of social competence.

## 2.2 LITERATURE REVIEW RELATED TO YOGA AMONG ADOLESCENTS

**Jennifer L. Frank, Bidyut Bose& Alex Schrobenhauser-Clonan (2014)** studied the Effectiveness of a school-based yoga program on adolescent mental health, stress coping strategies, and attitudes toward violence. Participants included 49 students attending an alternative education school in an urban inner-city school district. Results indicated that students who participated in the Transformative Life Skills program demonstrated significant reductions in anxiety, depression, and global psychological distress. Significant reductions in rumination, intrusive thoughts, physical arousal, and emotional arousal were reported.

**Manoj Sharma (2013)** was done a Systematic Review of Yoga as an Alternative and Complementary Approach for Stress Management was to look at studies from 2011 to May 2013 and examine whether yoga can be an efficacious approach for managing stress. A systematic search of Medline, Cumulative Index to Nursing and Allied Health Literature and Alt Health Watch databases was conducted for quantitative articles involving all schools of yoga. A total of 17 articles met the inclusion criteria. Among 17 studies, 12 demonstrated positive changes in psychological or physiological outcomes related to stress. The findings revealed that yoga appears to be a promising modality for stress management.

**Shirley Telles**, **Nilkamal Singh**, **Abhishek Kumar Bhardwaj**, **Ankur Kumar and Acharya Balakrishna (2013)** conducted a randomized controlled trial on effectiveness of yoga or physical exercise on physical, cognitive and emotional measures in children**.** Totally 98 school children aged between 8 to 13 years participated. Both groups were assessed by using the Eurofit physical fitness test

battery, Stroop color-word task for children and Battle's self-esteem inventory. After assessments the yoga group practiced yoga (breathing techniques, postures, guided relaxation and chanting), 45 minutes each day, 5 days a week. During this time the physical exercise group had jogging-in-place, rapid repetitive movements and relay races or games. Both groups were assessed at the end of 3 months. Data were analyzed with Repeated Measures Analysis of Variance and post-hoc tests. The study found that both groups showed an increase in BMI, and number of sit-ups ($p<0.001$). Balance worsened in the physical exercise group, while plate tapping improved in the yoga group ($p<0.001$). In the Stroop task both groups showed improved color, word and color-word naming ($p<0.01$). Total, general and parental self-esteem improved in the yoga group ($p<0.05$).

**E. Kishore and Dr.B.C.Obulareddy (2013)** studied the effect of yoga on quality of life and physical outcome measures in the pediatric population. The study explored various databases and included case control and pilot studies, cohort and randomized controlled trials that examined yoga as an exercise intervention for children. The research addressed through three practice patterns according to the Guide to Physical Therapist Practice and provides considerations for the inclusion of yoga into clinical practice. The evidence was shown that physiological benefits of yoga for the pediatric population that may benefit children through the rehabilitation process.

**Damme and Kruese (2013)** made a meta-analysis of randomized control trial to evaluate the effectiveness of yoga on mental health. The primary outcomes in this meta-analysis are depression or depressive symptoms and well-being, which consisted of emotional well-being, psychological well-being and social well-being. Results shown the following effects of yoga on mental health were seen: A total of 32 studies

with 38 outcomes showed an effect on mental health. On depression 29 studies showed an effect on well-being 6 studies with 11 outcomes showed an effect on Emotional wellbeing, psychological well-being, social well-being. This meta-analysis was shown that yoga interventions can be effective in reducing depression, depressive symptoms and the promotion of well-being.

**Jessica J. Noggle, Naomi J. Steiner, Takuya Minami, Sat Bir S. Khalsa (2012)** conducted a study to test feasibility of yoga within a high school curriculum and evaluate preventive efficacy for psychosocial well-being. Grade 11 or 12 students (N =51) who registered for physical education were cluster-randomized by class 2:1 yoga: physical education as usual. Self-report questionnaires were administered to students 1 week before and after. Perceived Stress Scale and Inventory, Resilience Scale, State Trait Anger Expression Inventory and Child Acceptance Mindfulness Measure were used. The yoga program of physical postures, breathing exercises, relaxation, and meditation was taught 2 to 3 times a week for 10 weeks. Analyses of covariance were used. Although PE as usual students showed decreases in primary outcomes, yoga students improved. Total mood disturbance improved in yoga students and worsened in controls ($p=0.015$). Although positive affect remained unchanged in both, negative affect significantly worsened in controls while improving in yoga students ($p=0.006$). Students rated yoga fairly high, despite moderate attendance.

**Joseph Spinazzola, Alison M.Rhodes, David Emerson, Ellen Earle and Kathryn Monroe (2011)** conducted a study to evaluate the effectiveness of yoga in residential treatment of Traumatized youth. The Trauma Center at Justice Resource Institute has adapted a form of Hatha yoga into a trauma-sensitive adjunctive component of intervention for use with complexly traumatized individuals exhibiting

chronic affective and somatic dysregulation and associated behavioral, functioning, and health complaints. This study explored the use of yoga with traumatized youths aged between 12-21 years in residential treatment. Case vignettes, anecdotal data and clinical observation were used. The result was shown that yoga as a viable approach to build self-regulatory capacity of traumatized youth.

**Leah hope kokinakis (2011)** examined the effects of yoga on adolescents cognition and social- emotional development in a school- based yoga program on ninth- grade (n=251) students. Results suggested that practicing yoga may be related to improvements in working memory capacity among boys. Similarly, yoga may protect boys against increases in negative affect. Boys in the yoga condition had lower levels of negative affect than boys in the control condition.

**Ross A, Thomas S. (2010)** done a scholarly review of the literature regarding research studies comparing the effects of yoga and exercise on a variety of health outcomes and health conditions. Using PubMed and the key word "yoga," a comprehensive search of the research literature from core scientific and nursing journals yielded 81 studies that met inclusion criteria. These studies subsequently were classified as uncontrolled (n = 30), wait list controlled (n = 16), or comparison (n = 35). The most common comparison intervention (n = 10) involved exercise. The studies reviewed, yoga interventions appeared to be equal or superior to exercise in nearly every outcome measured except those involving physical fitness.

**Beets, Michael W.; Mitchell, Erin (2010)** conducted the pilot study on effects of Yoga on stress, depression, and health-related quality of life in a nonclinical, bi-ethnic sample of adolescents. Fifty-five students attending one rural public high school received either 2 weeks of yoga followed by 2 weeks removal or 2 weeks of no treatment followed by 2 weeks of yoga. Primary outcome measures were

measured by the Center for Epidemiological Studies Depression Scale and Perceived Stress Scale. The study was shown a significant ($p< 0.05$) treatment effects. Despite short program exposure, acute changes in mental health indicators were observed and continued after 2 weeks of treatment removal.

**Berger DL, Silver EJ, Stein RE (2010)** conducted a pilot study on effectiveness of yoga on inner- city children's wellbeing. This pilot study compared fourth- and fifth-grade students at 2 after-school programs in Bronx, New York. One program offered yoga for 1 hour per week for 12 weeks (yoga) and the other program (non-yoga) did not. Emotional well-being was assessed by Harter's Global Self-Worth and Physical Appearance subscales. Other measures of emotional well-being assessed by Negative Behaviors, Positive Behaviors, and Focusing/relaxation subscales. Data were collected from 78% (n=39) and 86.5% (n=32) of potential yoga and non-yoga study enrollees. Analysis of covariance used for analysis. The study found that children in the yoga group had better post intervention Negative Behaviors scores and balance than the non-yoga group ($P< 0.05$). The majority of children participating in yoga reported enhanced wellbeing, as reflected by perceived improvements in behaviors.

**Amit Kauts and Neelam Sharma (2009)** studied about an effect of yoga on academic performance in relation to stress. The study was conducted in eight public schools of Jalandhar, Punjab. The participants were 400 boys and 400 girls, with ages ranging from 14 to 15 years. Bisht Battery of Stress Scale was administered. Experimental group and control group were given pre test in three subjects like Mathematics, Science, and Social Studies. A yoga module consisting of yoga asanas, pranayama, meditation, prayer and value orientation program administered daily for an hour in the morning with the experimental group for 7 weeks. Same academic

performance test was administered on the both groups as a posttest. The findings of this study revealed that the students who experienced yoga module performed better in overall academics($p<0.05$) as well as in their separate subjects like Mathematics, Science, and Social Studies found to be significant at 0.01 level than those students who did not experience yoga module.

**Galantino, Mary Lou, Galbavy, Robyn, Quinn, Lauren (2009)** was done a systematic review of the literature on the effect of yoga on quality of life and physical outcome measures in the pediatric population. The study explored various databases and included case–control and pilot studies, cohort and randomized controlled trials that examined yoga as an exercise intervention for children. The research addressed three practice patterns according to the Guide to Physical Therapist Practice. The evidence was shown that physiological benefits of yoga for the pediatric population that may benefit children through the rehabilitation process, but larger clinical trials, including specific measures of quality of life are necessary to provide definitive evidence.

**Michael P Butler (2009)** studied about five yogic practices and their relation to psychological distress. It was hypothesized that levels of experience with meditation, pranayama and asana, and levels of effort at mindfulness and acceptance, would be negatively correlated with scores on the Global severity index of the Brief Symptom Inventory in two samples. Partial correlations controlling for objective stress, as measured by the Social Readjustment Rating Scale were also computed to filter out the effects on Global severity index scores. Months experience with meditation ($p=0.006$), months experience with pranayama ($p=0.02$), months experience with asana ($p=0.002$), amount of effort at mindfulness ($p=0.003$), and amount of effort at acceptance, ($p<0.001$), were all associated with decreased

psychological distress. When controlling for objective stress, only months experience with asana ($p=0.008$), and amount of effort at acceptance ($p<0.001$), remained significantly correlated with the Global severity index, though the partial correlations for months experience with meditation ($p=0.056$), and amount of effort at mindfulness ($p=0.068$) approached significance.

**Dr. Richard P. Brown, Dr. Patricia Gerbarg and Colleagues (2009)** conducted a research to evaluate the Effectiveness of a yoga breath intervention alone and in combination with an exposure therapy for Post traumatic stress disorder and depression in survivors of the 2004 South-East Asia tsunami. In this non-randomized study, 183 tsunami survivors who scored 50 or above on the Post-traumatic Checklist were assigned by camps to one of three groups: yoga breath intervention, yoga breath intervention followed by 3-8 hrs of trauma reduction exposure technique or 6-week wait list. Measures for post-traumatic stress disorder and depression were performed at baseline and at 6, 12 and 24 weeks. Data were analyzed using ANOVA and mixed effects regression. Results revealed that the effect of yoga breath intervention was significant at 6 weeks ($p < 0.001$).

## 2.3 LITERATURE REVIEW RELATED TO EFFECTIVENESS OF YOGA ON RESILIENCE AMONG ADOLESCENTS

**Khalsa S.B, Schultz L.H, Deborah cohen, Naomi Steiner and Stephen Cope (2011)** were conducted a preliminary Randomized Controlled Trial to evaluate the effectiveness of regular physical education classes and yoga sessions. The study included 112 students aged between 15-19- years. The participants attended two to three yoga sessions per week, for 30-40 minutes for 11 weeks. They used breathing exercises, yoga poses, posture, visualization, and games. Students completed baseline and end-program self-report measures of mood, anxiety,

perceived stress, resilience, and other mental health variables. The researcher used Analysis of Variance on each outcome variable and analyzed the subscale scores of the questionnaires with a series of independent- sample *t* test. The results shown that the amount of change in resilience as measured by the Resilience Scale was significantly different between the yoga and control groups (p=0.014). The yoga group had a significant increase in resilience from 131.5 (SD=15.4) to 133.6 (SD=16.0), (*p*=0.192), the control group significantly decreased in resilience from 131.2 (SD=18.5) to 126.5 (SD=21.9), (*p*=0.040).

**Mark T. Greenberg and Alexis R. Harris (2011)** article reviews the current state of research on contemplative practices of yoga with children and youth. It reviews contemplative practices used both in treatment settings and in prevention or health promotion contexts, including school-based programs. Although there is great interest and potential promise for contemplative interventions, enthusiasm for promoting such practices outweighs the current evidence supporting them. Interventions that nurture mindfulness in children and youth may be a feasible and effective method of building resilience in universal populations and in the treatment of disorders in clinical populations.

**Nazanin Aminian, Veena Ugargol1, Heather Mason1, E. Leigh Gibson, Sat Bir S. Khalsa (2010)** had done a research on investigating the effects of the 8-weeks Yoga for the Mind course. Participants (n=26 initially) who self-reported anxiety or depression were recruited to take part in the yoga for the mind course. Baseline and post-course measures of mental health, wellbeing, mindfulness and resilience were taken. Analysis of covariance was used. Results indicated that Positive affect increased significantly from pre-session to post-session, in yoga for the mind group at both weeks 1 and 8 and Negative Affect decreased significantly, at both

weeks 1 and 8 Well-being for the week-1 to week-8 absolute mean difference for the yoga for the mind group is 18.5%. Resilience was shown a substantial (52%) relative increase after yoga for the mind.

**YOGA for Youth** conducted a mixed research on effectiveness of yoga program and its effect on adolescent stress, emotional affect, and resilience in the participants (n=30). The study was done in public and two charter schools in Los Angeles. A survey was administered to measure the three dependent variables and informal interviews were conducted to determine the overall effectiveness of the program. The results of the mixed method approach indicated that the overall program was effective in creating a general sense of well-being and statistically significant in alleviating stress ($p < 0.05$), increasing positive affect ($p < 0.05$) and resilience ($p < 0.001$) in the participants.

## PART-B

## 2.4 CONCEPTUAL FRAMEWORK

Conceptual framework is an interrelated concepts or abstractions assembled in a rational and often explanatory scheme to illuminate relationships among them (Polit, 2012). Concepts are the words that describe objects, properties or events and are basic components of theory. A conceptual framework is a theoretical approach to the study of problems that are scientifically based and emphases the selection, arrangement and classification of its concept.

A conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas. Likewise, conceptual frameworks are abstract representations, connected to the research project's goals that direct the collection and analysis of data. Conceptual framework represents the way ideas are organized to achieve a research project's purpose.

The present study conceptual framework was based on Modified Imogene King's Goal Attainment theory (1981). A theory of goal attainment focuses on the Interpersonal System and the interactions, communications and transactions between two individuals, the nurse and the patient. The essence of her theory is that the nurse and the patient come together, communicate, and make transactions – they set goals and work to achieve the goals they set. They each have a purpose, they perceive, judge, act and react upon each other. At the end of their communication, a goal will be set and with this transactions are made.

The theory of goal attainment pertains to the importance of interaction, perception, communication, transaction, self, role, stress, growth and development, time, and personal space. King emphasizes that both the nurse and the client bring

important knowledge and information to the relationship and that they work together to achieve goals.

The concepts for the personal system are: perception, self, growth and development, body image, space, and time. The concepts associated for the interpersonal system are: interaction, communication, transaction, role, and stress.

The final interacting system is the social system. This shows how the nurse interacts with co workers, superiors, subordinates and the client environment in general. These are groups of people within the community or society that share a common goals, values and interests.

In this study, the investigator perceived the importance yoga intervention to improve resilience for those who had low and moderate resilience score in 14- items Resilience scale. The investigator goal was to improve resilience among adolescents by the investigator.

- Perception: Perception is a process in which data obtained through the senses and from memory are organized, interpreted and transformed, which are related to past experience, concept of self and educational background.

  In this study, the investigator perceived low and moderate level of resilience among adolescents by pre test. The subjects accepted that benefits of yoga for improving resilience level to adopt with newer life circumstances.

- Communication: The vehicle by which human relations are developed and maintained; encompasses intrapersonal, interpersonal, verbal, and nonverbal communication.

  In this study, the investigator maintains good rapport with subjects. Also develops mutual understanding through good communication. Then mutual goal was set.

- Interaction: Interactions are the acts of two or more persons in mutual presence; a sequence of verbal and nonverbal behaviors that are goal directed.

  In this study, the investigator selects the experimental group for yoga intervention.

- Transaction: A process of interaction in which human beings communicate with the environment to achieve goals that are valued; goal-directed human behaviors.

  In this study, the investigator demonstrates yoga to the experimental group. The subjects perform yoga for 6 weeks daily about 60 minutes. Investigator administers post test for both experimental and control group.

  Role : A set of behaviours expected of a person occupying a position in a social system.

  In this study, the subjects from experimental group are more resilient after yoga intervention and no changes in the level of resilience among control group.

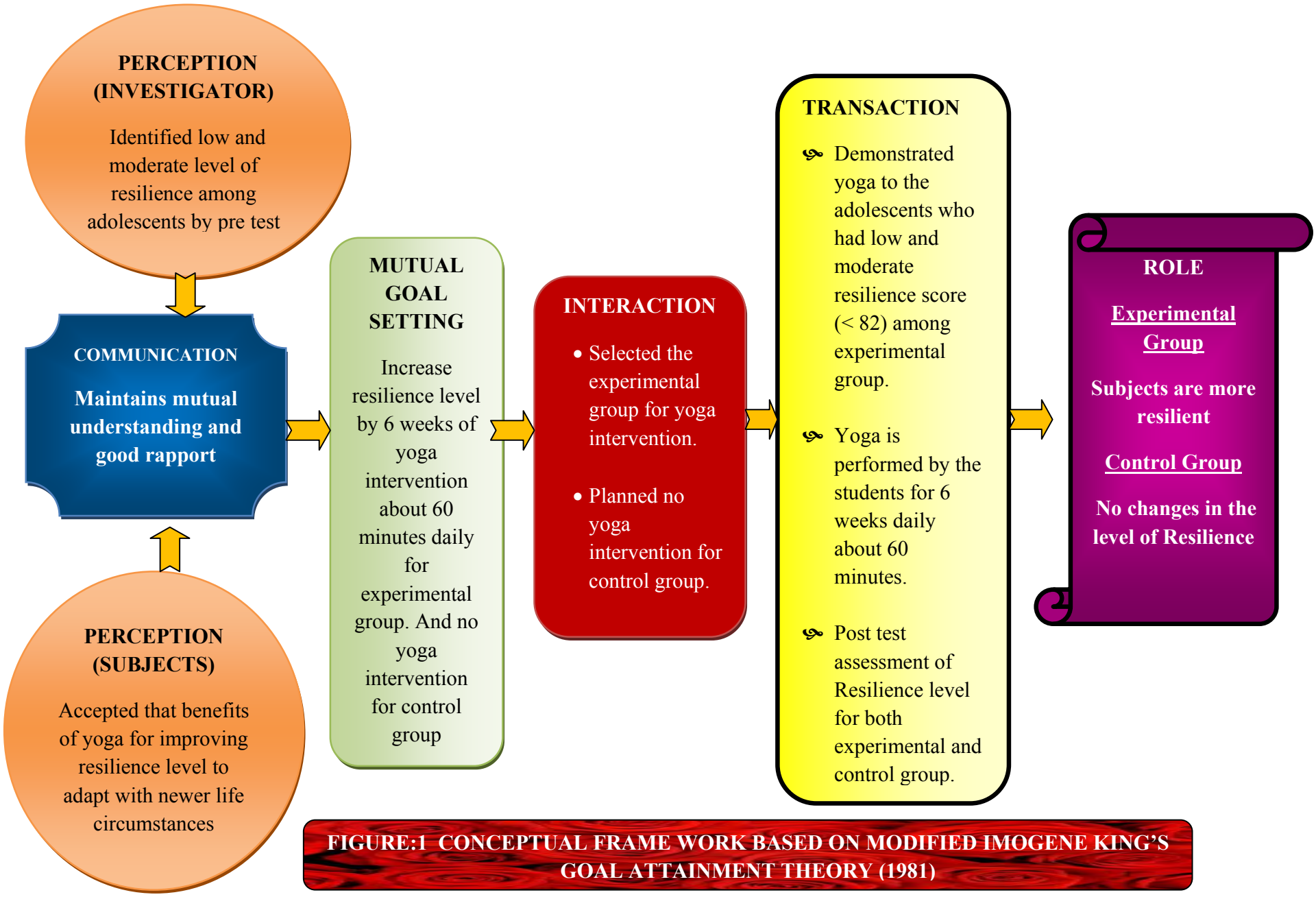



**FIGURE:1 CONCEPTUAL FRAME WORK BASED ON MODIFIED IMOGENE KING'S GOAL ATTAINMENT THEORY (1981)**

# *Methodology*

# CHAPTER-III
# METHODOLOGY

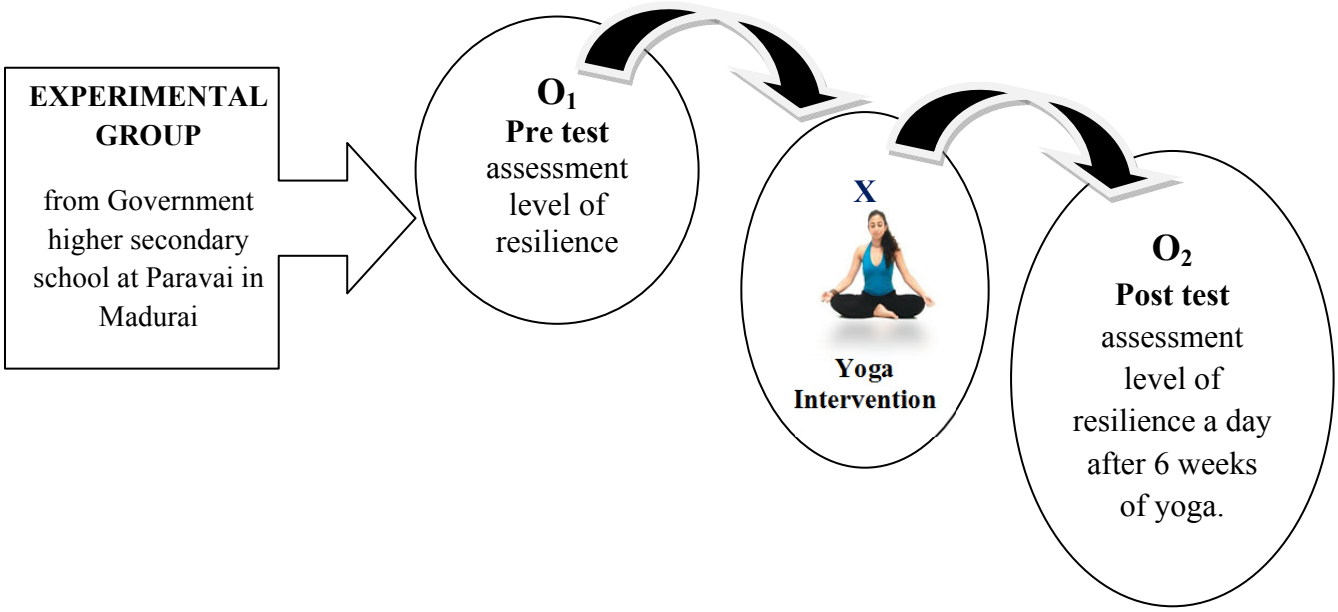
This chapter deals with the description of the methods and different steps used for collecting and organizing data for the investigation. It includes the description of the research approach, the research design, study setting, population, sample, sample size, sampling technique, sampling criteria, description of the tool, pilot study, data collection procedure and the plan for data analysis in the study. This present study was done to evaluate the effectiveness of yoga on resilience among adolescent at selected schools in Madurai.

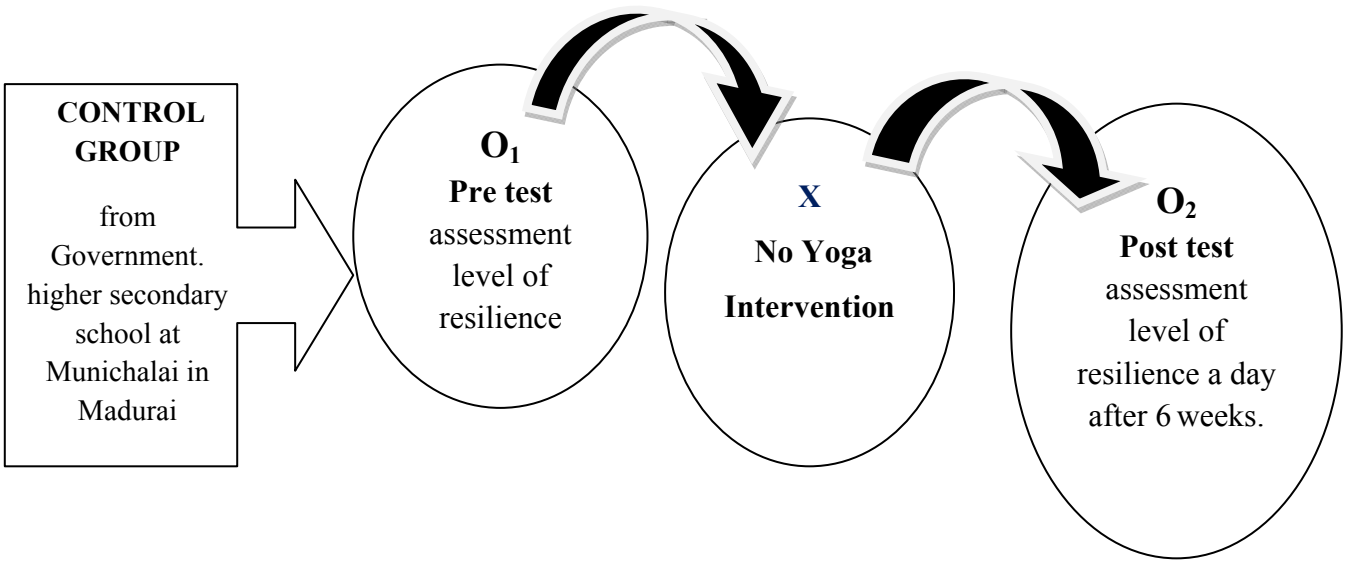
## 3.1 RESEARCH APPROACH

Quantitative research approach was used in this study.

## 3.2 RESEARCH DESIGN

The research design used in this study was Quasi experimental non equivalent control group pretest- posttest design.






### 3.3 RESEARCH VARIABLES

Variables are an attribute that varies, that is, takes on different values. Variable are character that can have more than one value.

The categories of variables discussed in this study were

Independent variable : Yoga

Dependent variable : Resilience level among Adolescents.

Demographic Variables : Age, sex, religion, education status of father, education status of mother, father's occupation, mother's occupation, family income per month, type of family, ordinal position of child birth, parental support and experienced stress.

### 3.4 SETTINGS OF THE STUDY

The study was conducted for the adolescents studying 9$^{th}$ standard at Government Higher secondary school, Paravai and Government Higher secondary school, Munichalai in Madurai.

Experimental group subjects were selected from Government Higher secondary school at Paravai in Madurai. Similarly the control group subjects were taken from Government Higher secondary school at Munichalai in Madurai.

## 3.5 POPULATION

Population is the entire set of individuals or objects having some common characteristics.

### Target population

Target population was adolescents who are studying 9$^{th}$ standard.

### Accessible Population

In this study accessible Population were adolescents studying 9$^{th}$ standard at Government higher secondary school, Paravai and Government Higher secondary school, Munichalai in Madurai.

## 3.6 SAMPLE

The sample for the present study was comprised of the adolescents studying 9$^{th}$ standard who met the inclusion criteria at Government higher secondary school, paravai and Government Higher secondary school at Munichalai in Madurai.

## 3.7 SAMPLE SIZE

The sample size consists of 60 adolescents. Among 60 subjects, 30 subjects were respectively assigned to each experimental group and control group.

## 3.8 SAMPLING TECHNIQUE

Subjects for this study were selected through purposive sampling technique. For experimental group 30 subjects were selected from the adolescents studying 9$^{th}$ standard who met the inclusion criteria at Government Higher secondary school, Paravai in Madurai. Similarly for the control group 30 subjects were taken from the adolescents studying 9$^{th}$ standard at Government Higher secondary school, Munichalai in Madurai and fulfilling the inclusion criteria.

## 3.9 SAMPLING CRITERIA

The subjects were selected based on the following inclusion and exclusion criteria.

**Inclusion criteria:**

- Study includes both boys and girls.
- Age group of 13 to 15 years.
- Studying 9$^{th}$ standard.
- Those who are scored <82 on resilience scale
- Those who are willing to participate.

**Exclusion criteria:**

- Those who are highly resilient and scored ≥ 82 on resilience scale.
- Those who are undergone any surgery
- Those who are with physical or mental illness, or being on medication

## 3.10 DESCRIPTION OF THE TOOL

The study tool consisted of two sections.

- Section A: Demographic variable
- Section B: Standardized Resilience Scale of Gail M. Wagnild & Heather M. Young (1987).

**Section A:**

This section consisted of Age, sex, religion, education status of father, education status of mother, father's occupation, mother's occupation, family income per month, family type, birth order, parental support and experienced stress.

**Section B:**

It consists of 14 items ratings in 7 point Likert scale to measure the level of Resilience among adolescents. To the right of each will find seven numbers, ranging from "1" (Strongly Disagree) on the left to "7" (Strongly Agree) on the right.

- Score 1 = strongly disagree
- Score 2 = moderately disagree
- Score 3 = slightly disagree
- Score 4 = Neutral
- Score 5 = slightly agree
- Score 6 = moderately agree
- Score 7 = strongly agree

### 3.11 SCORING PROCEDURE

| Very Low | Low | Moderate Low | Moderate High | High | Very High |
|---|---|---|---|---|---|
| 14- 56 | 57- 64 | 65- 73 | 74- 81 | 82- 90 | 91- 98 |

### 3.12 CONTENT VALIDITY

Content validity was obtained from three Community Health Nursing experts, expert in Community Medicine and Psychologist. The expert's suggestions were incorporated in the tool.

### 3.13 VALIDITY OF YOGA

The investigator trained and demonstrated the procedure to the yoga expert of Valliammal Institute. And the certificate was obtained.

### 3.14 RELIABILITY OF THE TOOL

Reliability of the tool was assessed by using Test- Retest method (r= 0.97). The reliability test score shows there is a stability and consistency in the tool items. Hence the tool was considered highly reliable for proceeding with the main study.

### 3.15 PILOT STUDY

A formal permission was obtained from Institutional Review board/ Independent Ethical committee of Government Rajaji Hospital, Madurai-20 and the Chief Education Officer. The Pilot study was conducted at Govt. higher secondary school at paravai, Madurai from 1.8.14- 7.8.14. The purpose of the study was explained to the head master and other teachers before starting the data collection. Informed consent was obtained from the parents of study subjects. Confidentiality was maintained throughout the study. Eligible subjects were screened and identified through pretest questionnaire. The data

was collected through interview technique. 10 Subjects were assigned in to two groups (experimental and control group). There were 5 subjects in each group. Yoga was performed by the experimental group daily for 1hour at the time of 11.00 am- 12.00 pm. After 6 days of intervention the post test was administered with same Questionnaire for both groups. While conducting the study, investigator was faced no difficulties and all the subjects were well cooperated. The study setting was feasible to proceed main study.

### 3.16 DATA COLLECTION PROCEDURE

The data collection was done for the period of 5 weeks from 12.08.14- 15.09.14. The study was conducted at Government higher secondary school, Paravai and Government Higher Secondary School, Munichalai in Madurai. The objectives of the study were explained to the head master and other teachers, who were present on that day. Written consent was sought from the parents of the study subjects. The purpose of the study was explained to the subjects and was assured confidentiality of the data collected. Demographic data of the subjects was collected for the students studying $9^{th}$ standard in Government higher secondary school at Paravai and Government Higher Secondary School at Munichalai in Madurai. The pre test was conducted with 14- items Resilience scale to screen out the eligible subjects by structured interview method. Among them students who secured low and moderate score (< 82) were selected. Subjects for this study were selected through purposive sampling technique. For experimental group 30 subjects were selected from the adolescents studying $9^{th}$ standard who met the inclusion criteria at Government Higher secondary school, Paravai in Madurai. Similarly for the control group 30 subjects were taken from the adolescents studying $9^{th}$ standard at Government Higher Secondary School, Munichalai in Madurai and fulfilling the inclusion criteria.

The experimental group subjects were divided in to two groups (15 subjects in each group). Then yoga was demonstrated. Each group was performed yoga during the time of 11.00 am-12.00 pm & 12.00 pm- 1.00 pm respectively. Subjects in the experimental group were performed yoga daily for 6 weeks daily. The control group was not received yoga intervention. The post test was conducted to both groups a day after the 6weeks of yoga. Total period of yoga intervention was 60 minutes.

The steps of Yoga intervention were:

1. Simple yogic exercises - 10 minutes
2. Asanas - 10 minutes
3. Breathing regulation ( pranayama) - 10 minutes
4. Mantra yoga- 10 minutes
5. Guided Meditation - 10 minutes
6. Anantha yoga- 5 minutes
7. Savasana- 5 minutes

## 3.17 PLAN FOR DATA ANALYSIS

Data analysis is the systematic organization and synthesis of research data and, in quantitative studies, the testing of hypotheses using those data. Data analysis enables the researcher to reduce, summarize, organize, evaluate, interpret and communicate numerical information to obtain answer to research questions.

The data were analyzed by using descriptive statistics and inferential statistics.

### Descriptive Statistics

- Demographic variables of the subjects were analyzed using methods of frequency and percentage distribution.

- Mean and standard deviation was used to analyze the level of resilience among adolescents.

**Inferential Statistics**

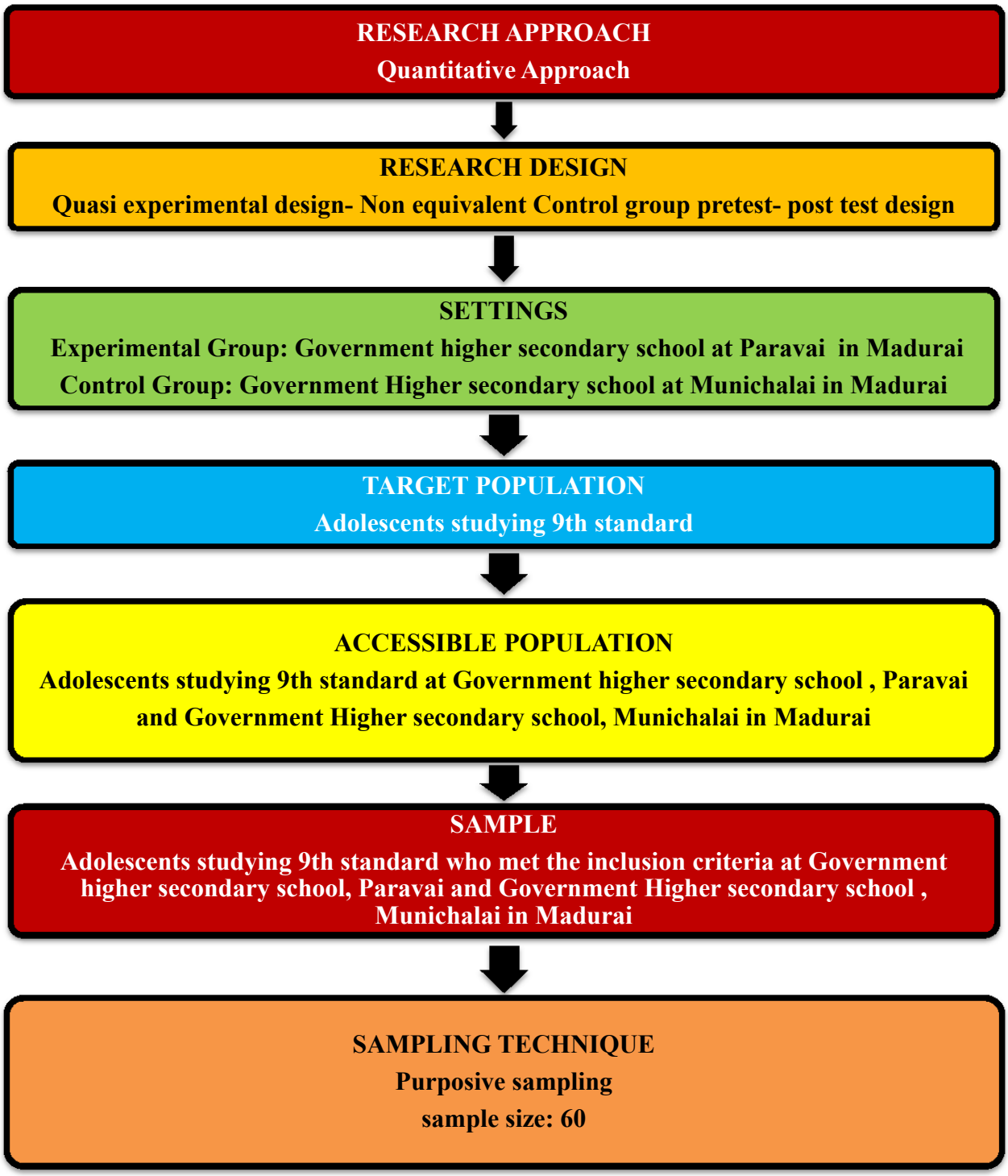
- Paired‘t’ test and unpaired ‘t’ were used to determine the effectiveness of yoga on improving resilience among adolescents studying at selected school.
- Chi - square test was used to find out the association between the level of resilience with their selected socio demographic variables.

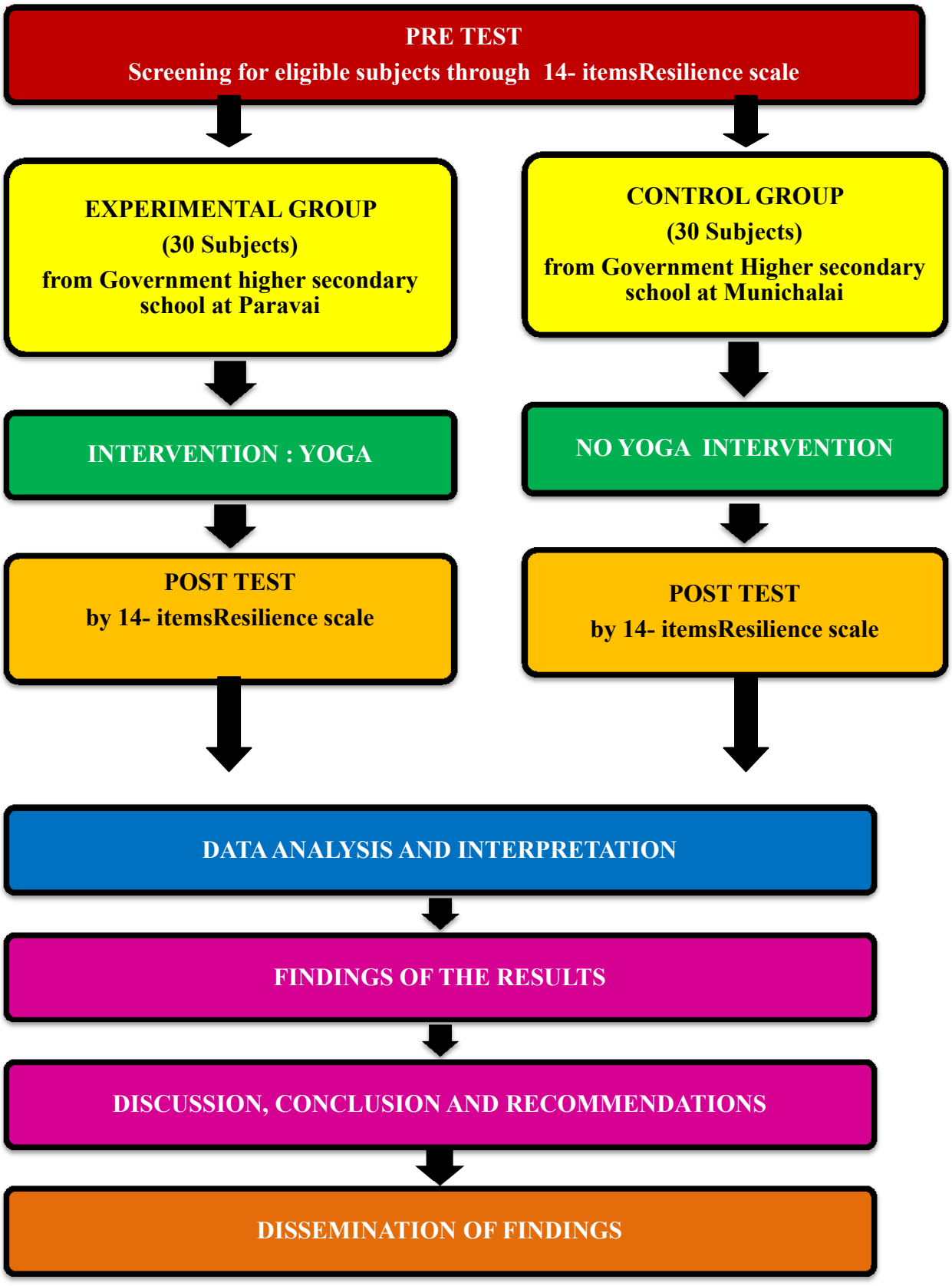
  The test findings were expressed in the form of tables and graphs.

## 3.18 PROTECTION OF HUMAN RIGHTS

The researcher got the approval from the Institutional Review Board/ Ethical committee of Government Rajaji Hospital, Madurai on 07.02.14 for conducting the study. The permission was obtained from the Principal, college of Nursing, Madurai Medical College, Madurai and Head of the Department from Community health nursing. Permission was obtained from Chief Education officer to conduct the study at the selected School in Madurai. Permission was obtained from School Head master to conduct the pilot study and main study. An informed consent was obtained from the parents of each study subject before starting the data collection. Confidentiality and privacy was maintained throughout the study.

FIGURE:2 SCHEMATIC REPRESENTATION OF THE STUDY




PRE TEST
Screening for eligible subjects through 14- itemsResilience scale
EXPERIMENTAL GROUP
(30 Subjects)
from Government higher secondary school at Paravai
CONTROL GROUP
(30 Subjects)
from Government Higher secondary school at Munichalai
INTERVENTION : YOGA
NO YOGA INTERVENTION
POST TEST
by 14- itemsResilience scale
POST TEST
by 14- itemsResilience scale
DATA ANALYSIS AND INTERPRETATION
FINDINGS OF THE RESULTS
DISCUSSION, CONCLUSION AND RECOMMENDATIONS
DISSEMINATION OF FINDINGS

# *Data Analysis And Interpretation*

# CHAPTER - IV

# DATA ANALYSIS AND INTERPRETATION

Data analysis is the systematic organization and synthesis of research data and, in quantitative studies, the testing of hypotheses using those data (Polit, 2012). The analysis of research data provides the results of the study. These results need to be evaluated and interpreted, giving thought to the aims of the study, its theoretical basis, the body of related research evidence, and limitations of the adopted research methods. Interpretations of statistical results form the basis for the discussion section of quantitative research reports.

The present chapter deals with analysis and interpretation of data collected from 60 adolescents for assessing the effectiveness of yoga on level of resilience. It is based on the data collected from the subjects through the 14- items Resilience Scale of Gail M. Wagnild & Heather M. Young (1987). The data were organized, tabulated, analyzed and interpreted by using descriptive and inferential statistics.

## 4.1 ORGANIZATION OF DATA

The data was organized and presented under the following sections:

**Section-I:** Distribution of Socio demographic variables.

**Section-II:** Distribution of Pre test level of Resilience among adolescents in experimental and control group.

**Section-III:** Distribution of Post test level of Resilience among adolescents in experimental and control group.

**Section-IV:** Comparison of pretest and post test level of Resilience among adolescents in experimental and control group.

**Section-V:** Effectiveness of Yoga on level of Resilience among adolescents in experimental group.

**Section-VI:** Association between the level of Resilience with their socio demographic variables.

## SECTION - I

## DISTRIBUTION OF SOCIO DEMOGRAPHIC VARIABLES

**Table - 1**

**Frequency and percentage distribution of socio demographic variables of adolescents**

**n=60**

| S. NO | DEMOGRAPHIC VARIABLES | | GROUP | | | |
|---|---|---|---|---|---|---|
| | | | EXPERIMENTAL | | CONTROL | |
| | | | f | % | f | % |
| 1. | AGE | 13 Years | 05 | 16.7% | 05 | 16.7% |
| | | 14 Years | 25 | 83.3% | 25 | 83.3% |
| | | 15 Years | 0 | 0% | 0 | 0% |
| 2. | GENDER | Male | 18 | 60% | 18 | 60% |
| | | Female | 12 | 40% | 12 | 40% |
| 3. | RELIGION | Hindu | 29 | 96.7% | 28 | 93.3% |
| | | Christian | 01 | 3.3% | 02 | 6.7% |
| | | Muslim | 0 | 0% | 0 | 0% |
| 4. | EDUCATION STATUS OF FATHER | Non formal education | 04 | 13.3% | 02 | 6.7% |
| | | Primary education | 02 | 6.7% | 08 | 26.7% |
| | | Secondary education | 16 | 53.3% | 16 | 53.3% |
| | | Higher secondary education | 07 | 23.3% | 03 | 10% |
| | | Degree / above | 01 | 3.3% | 01 | 3.3% |
| 5. | EDUCATION STATUS OF MOTHER | Non formal education | 10 | 33.3% | 03 | 10% |
| | | Primary education | 05 | 16.7% | 05 | 16.7% |
| | | Secondary education | 07 | 23.3% | 16 | 53.3% |
| | | Higher secondary education | 08 | 26.7% | 04 | 13.3% |
| | | Degree / above | 0 | 0% | 02 | 6.7% |

| S. NO | DEMOGRAPHIC VARIABLES | | GROUP | | | |
|---|---|---|---|---|---|---|
| | | | EXPERIMENTAL | | CONTROL | |
| | | | f | % | f | % |
| 6. | FATHER'S OCCUPATION | Unemployed | 0 | 0% | 0 | 0% |
| | | Coolie work | 15 | 50% | 06 | 20% |
| | | Self employed | 09 | 30% | 18 | 60% |
| | | Private employee | 0 | 0% | 06 | 20% |
| | | Government employee | 05 | 16.7% | 0 | 0% |
| | | Farmer | 01 | 3.3% | 0 | 0% |
| 7. | MOTHER'S OCCUPATION | Housewife | 13 | 43.3% | 15 | 50% |
| | | Coolie work | 14 | 46.7% | 06 | 20% |
| | | Self employed | 0 | 0% | 02 | 6.7% |
| | | Private employee | 02 | 6.7% | 04 | 23.3% |
| | | Government employee | 0 | 0% | 0 | 0% |
| | | Farmer | 01 | 3.3% | 0 | 0% |
| | | Housewife | 13 | 43.3% | 15 | 50% |
| 8. | FAMILY INCOME | < Rs. 2000 | 0 | 0% | 0 | 0% |
| | | Rs.2001- Rs.5000 | 05 | 16.7% | 03 | 10% |
| | | Rs. 5001- Rs. 10000 | 14 | 46.7% | 19 | 63.3% |
| | | > Rs. 10000 | 11 | 36.7% | 08 | 26.7% |
| 9. | FAMILY TYPE | Nuclear | 21 | 70% | 20 | 66.7% |
| | | Joint | 09 | 30% | 10 | 33.3% |
| 10 | BIRTH ORDER | First child | 12 | 40% | 17 | 56.7% |
| | | Middle child | 03 | 10% | 02 | 6.7% |
| | | Last child | 15 | 50% | 01 | 36.7% |
| 11 | PARENTAL SUPPORT | Father | 06 | 20% | 07 | 23.3% |
| | | Mother | 10 | 33.3% | 18 | 60% |
| | | Both | 14 | 46.7% | 05 | 16.7% |
| 12 | EXPERIENCED STRESS | Yes | 04 | 13.3% | 04 | 13.3% |
| | | No | 26 | 86.7% | 26 | 86.7% |

The above table reveals that,

- **In the aspect of age**, most of the subjects were 25 (83.3%) belongs to the age of 14 years; the least were 5 (16.7%) belongs to the age of 13 years and none of them (0%) belongs to the age of 15 years both in experimental and control group.
- **In regard to gender**, most of the subjects 18(60%) were males and 12(40%) were females both in experimental and control group.
- **Regarding the religion**, most of the subjects 29(96.7%) were Hindu; about 5% people were Christians and none of the subjects were Muslim (0%) both in experimental and control group.
- **Based on educational status of father**, most of the subject's father 16 (53.3%) were studied up to secondary education and only 1(3.3%) of them were gone for degree and above programme both in experimental and control group.
- **Based on educational status of mother**, 10 (33.3%) were not even had school education, 5 (16.7%) had primary education, 7 (23.3%) were studied up to secondary education, 8 (26.7%) were completed Higher Secondary education and none of them (0%) were gone for degree and above in experimental group. In control group, 3(10%) of the mothers had no school education, 5 (16.7%) had primary education, most of them 16 (53.3%) were studied up to secondary education, 4 (13.3%) were completed Higher Secondary education and 2(6.7%) of them completed degree and above programme.
- **Related to Father's occupation**, none of them were unemployed in both experimental group and control group. In experimental group, most of the

fathers 15(50%) were coolie, 9(30%) were self employed, 5( 16.7%) of them were Government employees and remaining 3.3% were farmers. Among control group, most of the fathers 18(60%) were self employed, 6(20%) were coolie workers, remaining 6(20%) were private employees and none of them were government employees & farmers.

- **In relation to mother's occupation**, most of the mothers 13(43.3%) were housewives; 14 (46.7) were coolie, 2(6.7%) of them were private employee and 1(3.3%) was farmer in experimental group. In control group, most of the mothers 15(50%) were housewives; 6(20%) were coolie. No mothers had Government job both in experimental and control group.
- **About family income of the subjects**, most of their salary in experimental group 14(46.7%) and control group 19(63.3%) fall in between Rs. 5001- Rs. 10000 and none of them earned less than Rs.2000, 5(16.7%) and 3 (10%)were between Rs. 2001 –Rs. 5000 range of income both in experimental and control group respectively. In experimental group, 11 (36.7%) families were earning < Rs. 10000 and in control group, 8 (26.7%) families were earning above Rs. 10000 per month.
- **Regarding the type of family**, most of the subjects 21 (70%) were from nuclear family and remaining 9(30%) were from joint family in experimental group. Similarly in control group, most of the subjects 20(66.7%) were from nuclear family and remaining 10(33.3%) were from joint family.
- **Related to birth order**, most of the subjects 15(50%) were last child in experimental group; 12(40%) of the subjects were first child and remaining 3 (10%) were middle child. In control group, most of them 17(56.7%) were first

order of birth, 2(6.7%) were middle children and 11(36.7%) were last children in their family.

- **About parental support**, 6(20%) were getting father's support, 10(33.3%) were supported by their mothers and most of them 14(46.7%) were supported by both in experimental group. Among control group, 7(23.3%) of them get support from father, majority of them 18(60%) were supported by mother and 5(16.7%) were supported by both.
- **In regard to experienced stress**, most of them in experimental 28(86.7%) and control group 26(86.7%) were experienced no stress. Also 4(13.3%) of the subjects from both experimental group and control group were experienced stress.

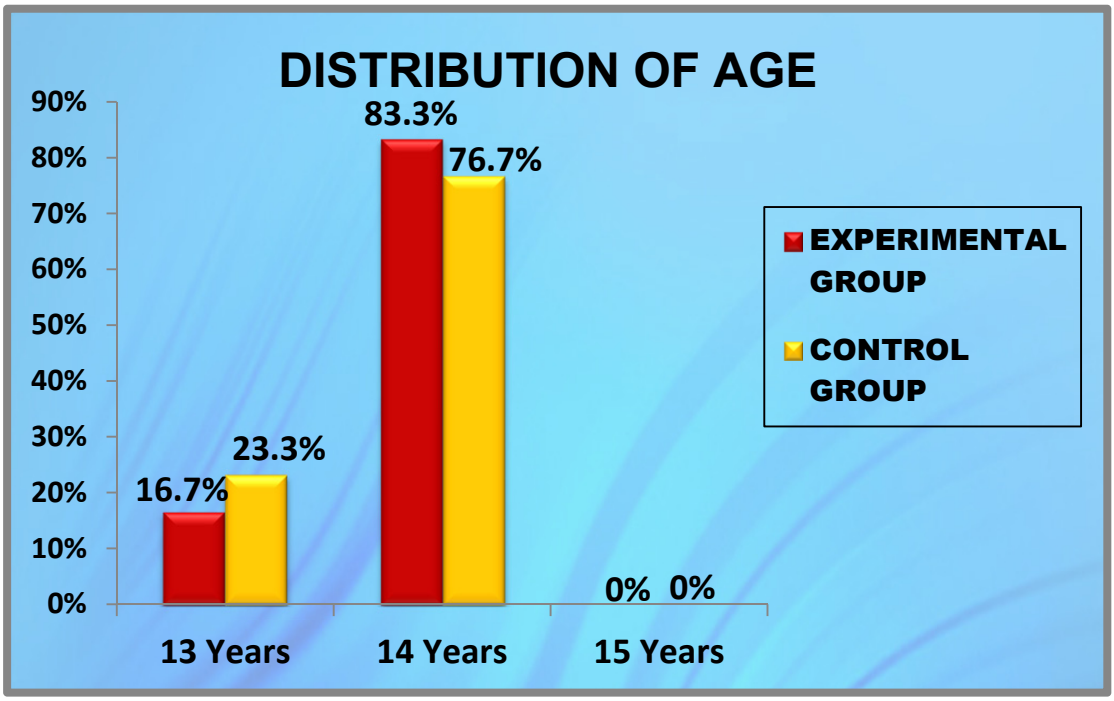



**Figure 3: Percentage distribution according to their age in years among adolescents both in experimental and control group**

The above clustered bar diagram shows that the higher percentage of adolescents (83.3%) were in experimental group and 76.7% were in the age of 14 years.

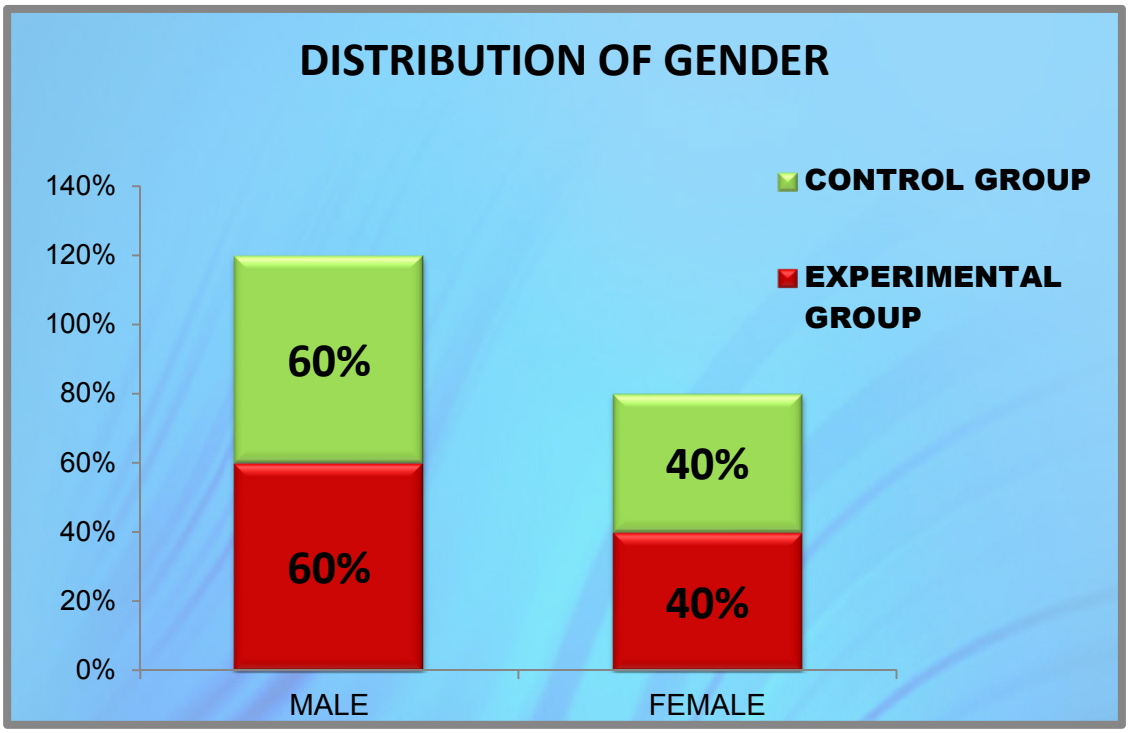



**Figure 4: Percentage distribution according to their gender among adolescents both in experimental and control group**

The above divided bar diagram shows that the equal percentage distribution among experimental and control group. In both groups, 60% of the subjects were males and 40% of the subjects were females.

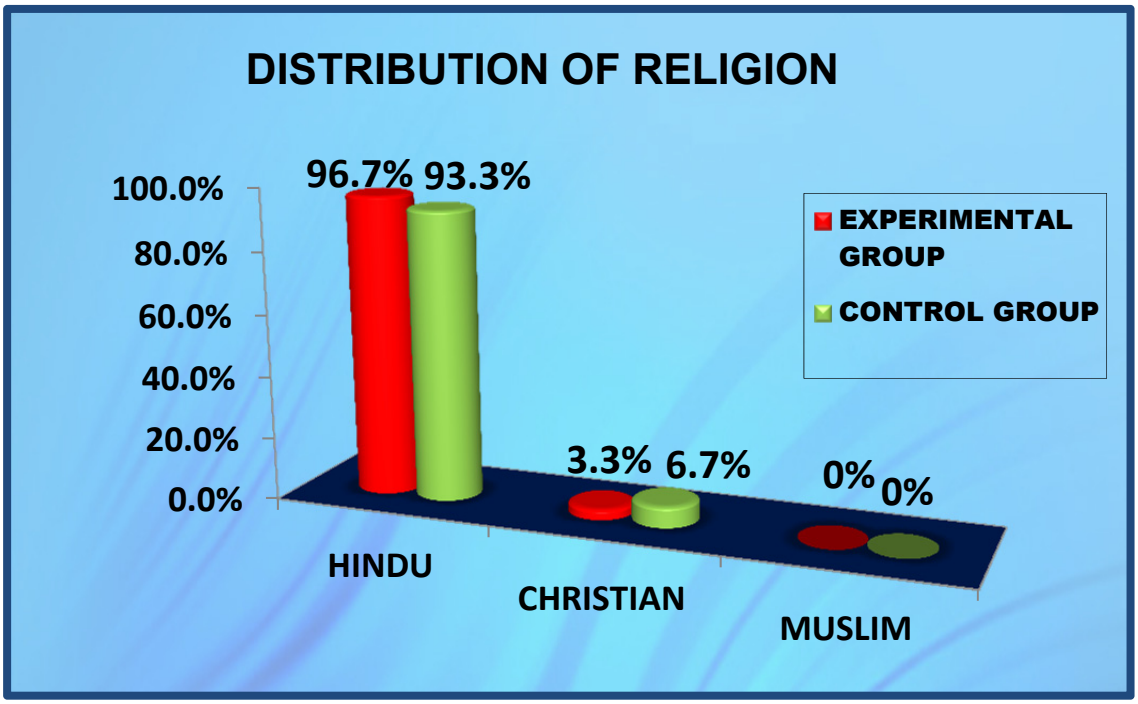



**Figure 5: Percentage distribution according to their religion among adolescents both in experimental and control group**

The above clustered cylindrical diagram reveals that most of the subjects (96.7%) were Hindus and only 3.3% of subjects were Christians in experimental and control groups.

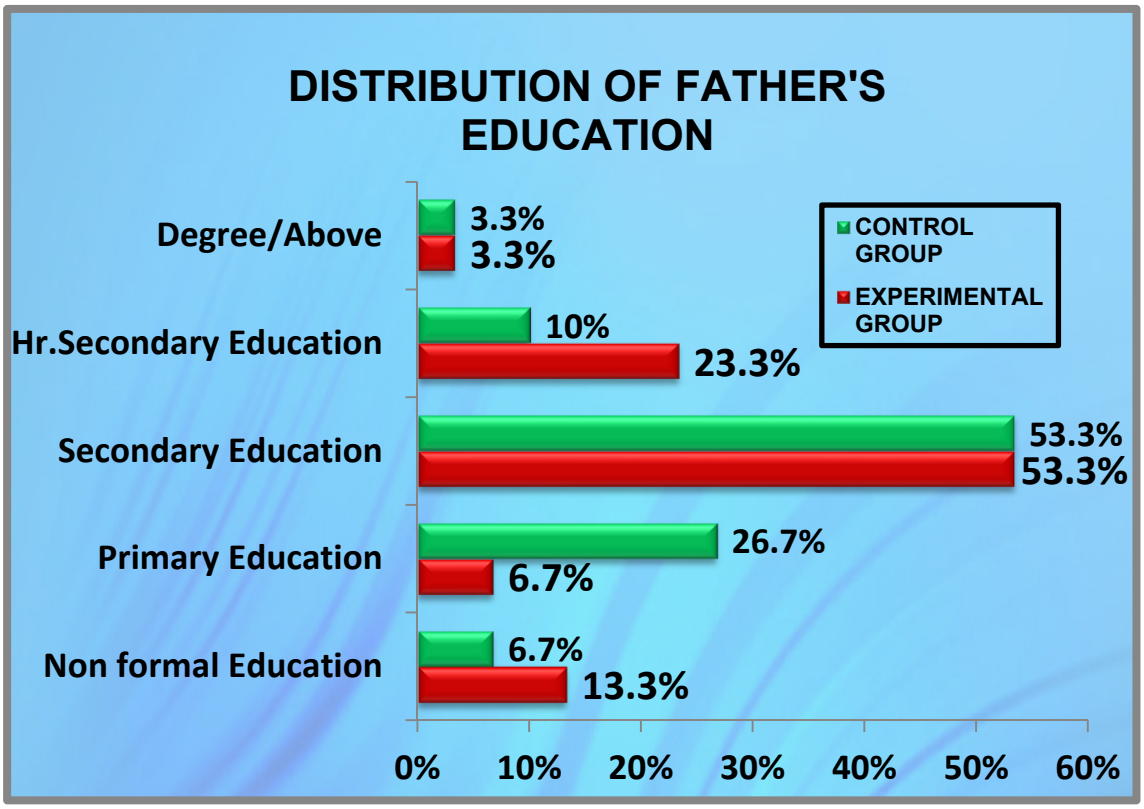



**Figure 6: Percentage distribution based on education status of father among adolescents both in experimental and control group**

The above horizontal bar diagram shows that most of the subject's father (53.3%) were studied up to secondary education and least of them (3.3%) were studied degree and above in both experimental and control group.

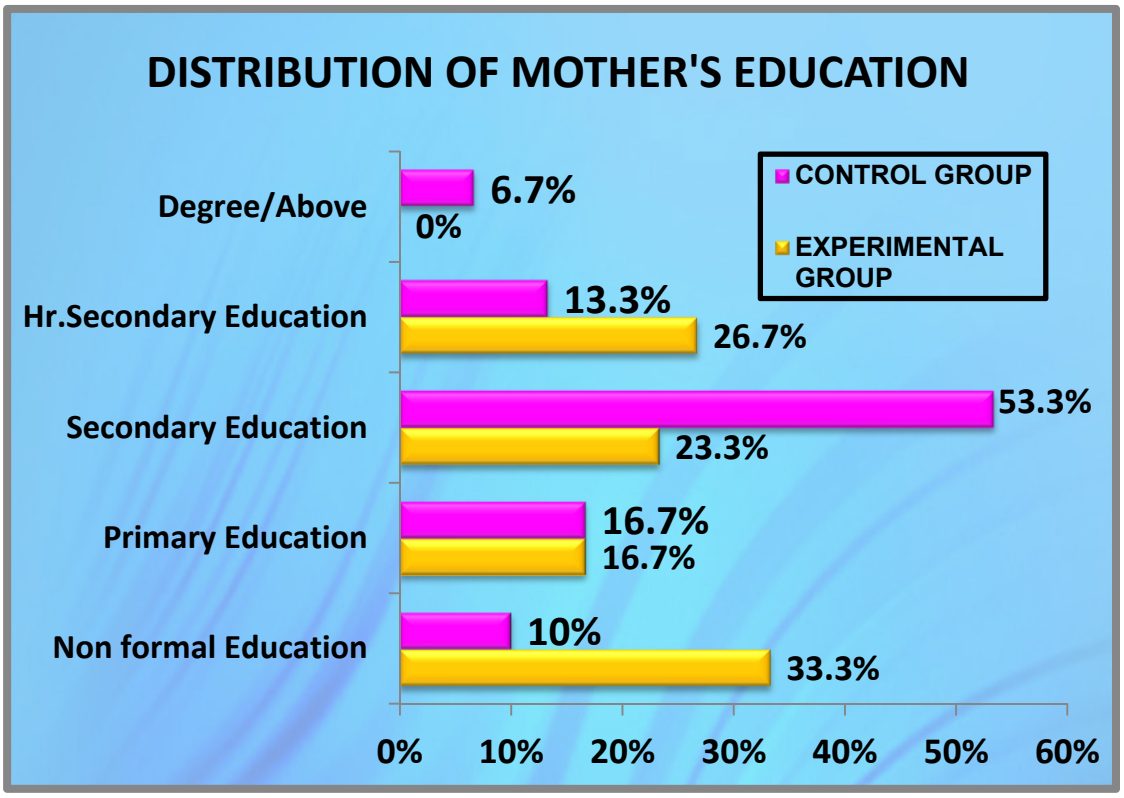



**Figure 7: Percentage distribution based on education status of mother among adolescents both in experimental and control group**

The above horizontal bar diagram shows that most of the mothers (33.3%) were not even had school education; 23.3% were studied up to secondary education and none of them (0%) were studied degree and above in experimental group. In control group, most of the mothers (53.3%) studied up to secondary education.

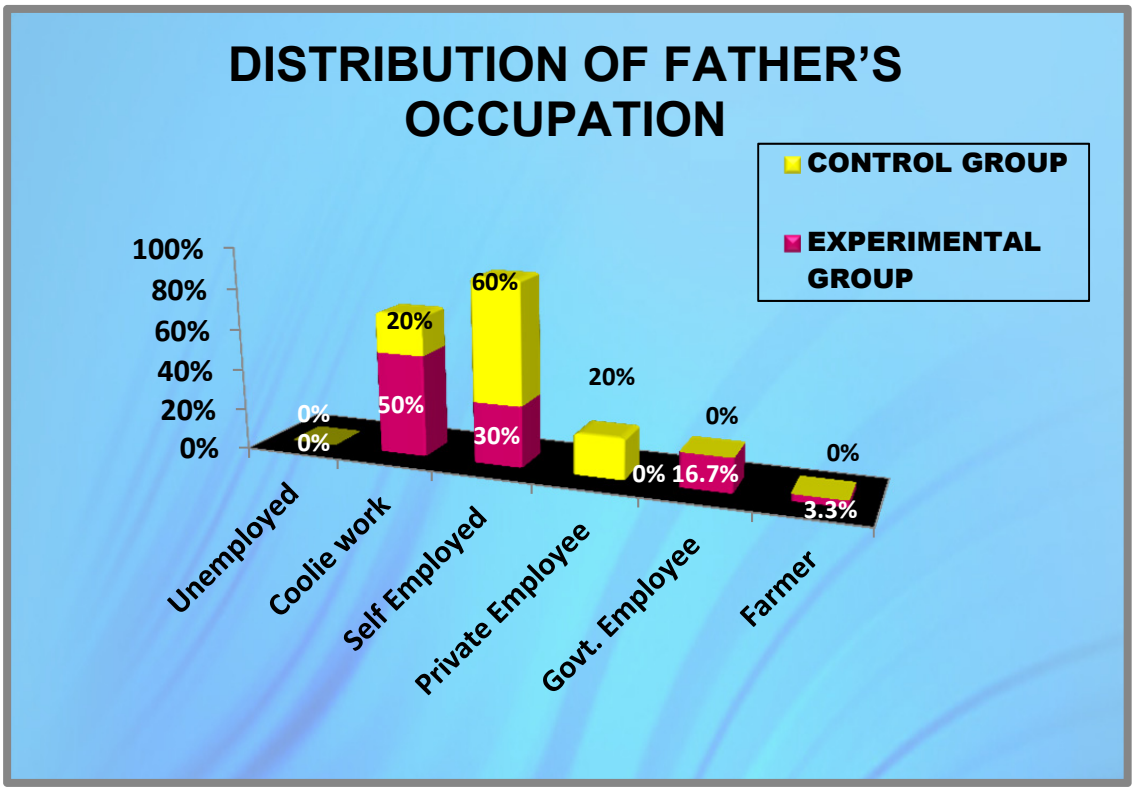



**Figure 8: Percentage distribution based on father's occupation among adolescents both in experimental and control group**

The above divided bar diagram shows that most of the subject's father (50%) were coolie; (30%) were self employed; 3.3% were farmers and none of them (0%) were unemployed in experimental group. In control group, most of them (60%) were self employed and none of them were government employees or farmers.

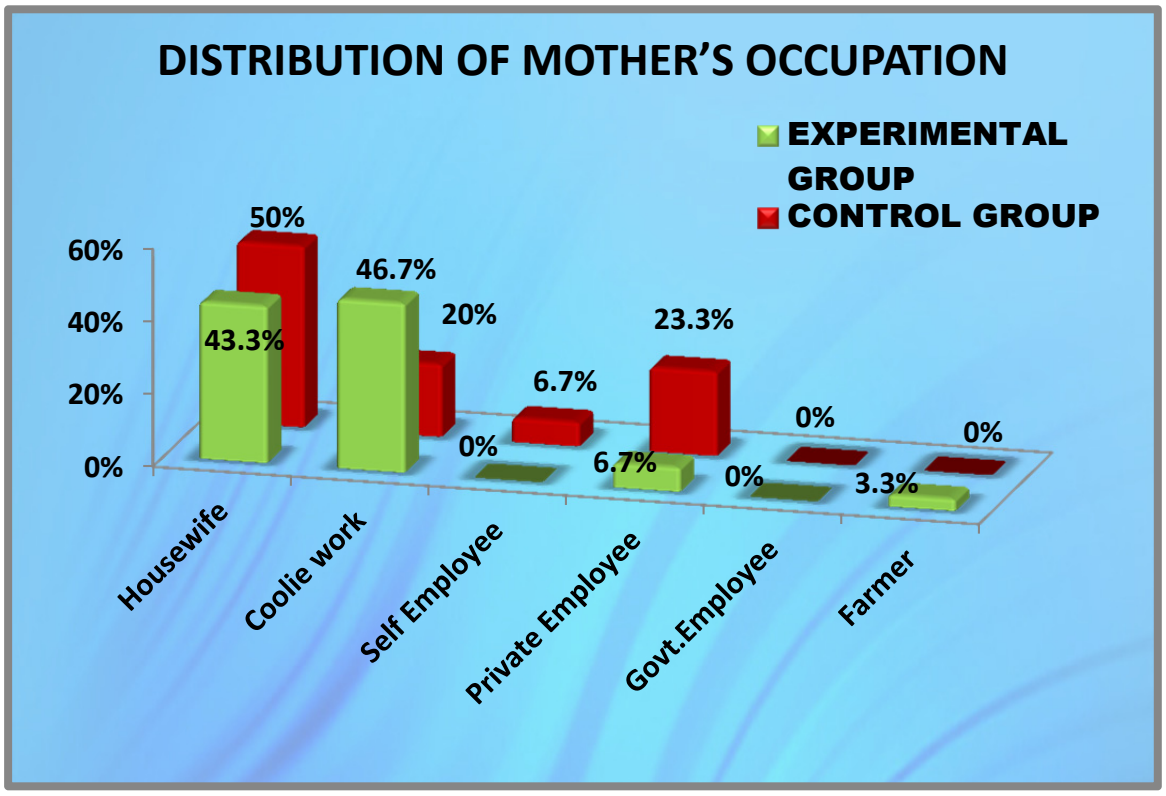



**Figure 9: Percentage distribution based on mother's occupation among adolescents both in experimental and control group**

The above clustered bar diagram represents that most of the subject's mother in experimental group (46.7%) were coolie and in control group 50% were housewives.

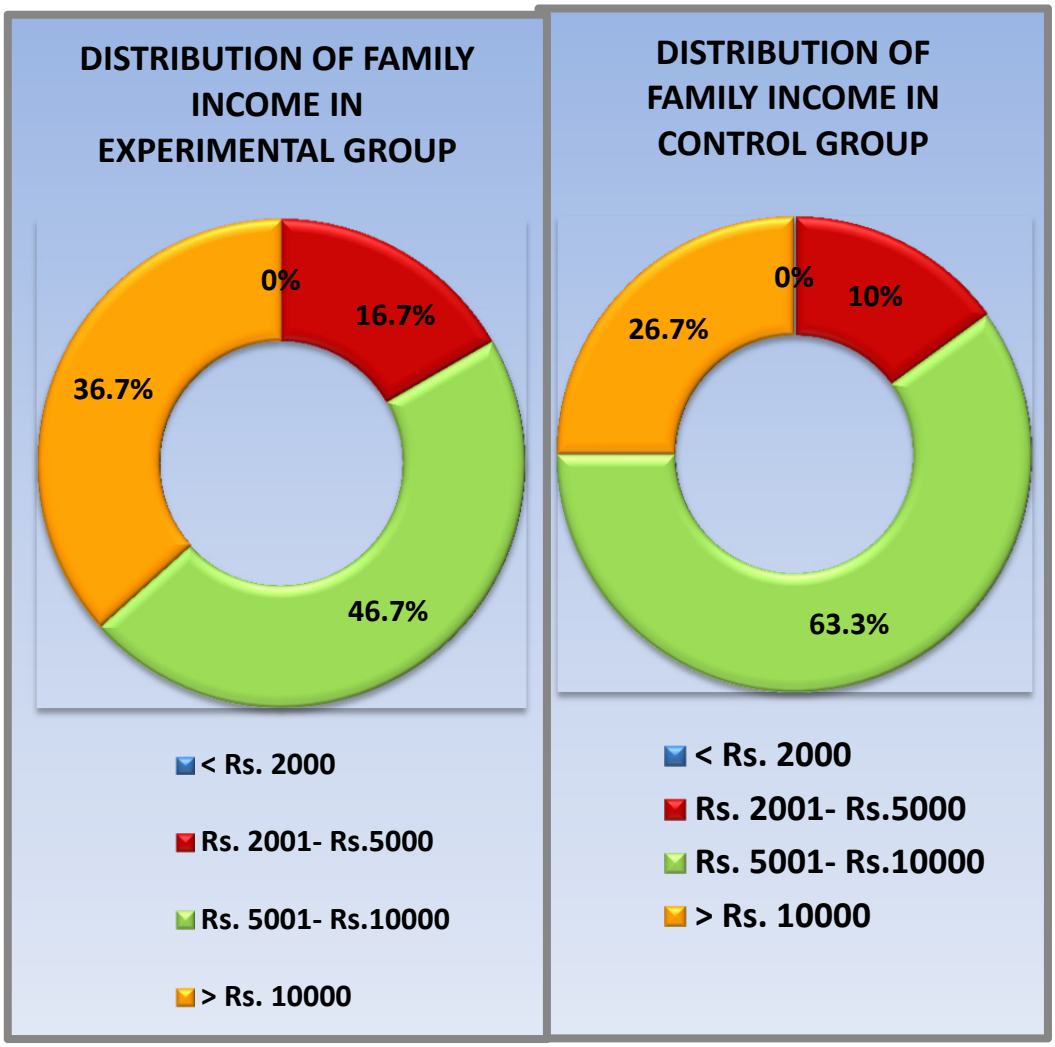



**Figure 10: Percentage distribution based on family income among adolescents both in experimental and control group**

The above figure shows that most of the family income falls between the range of Rs. 5001- Rs. 10000 among experimental (46.7%) and control groups (63.3%). Also none of them was getting less than Rs. 2000.

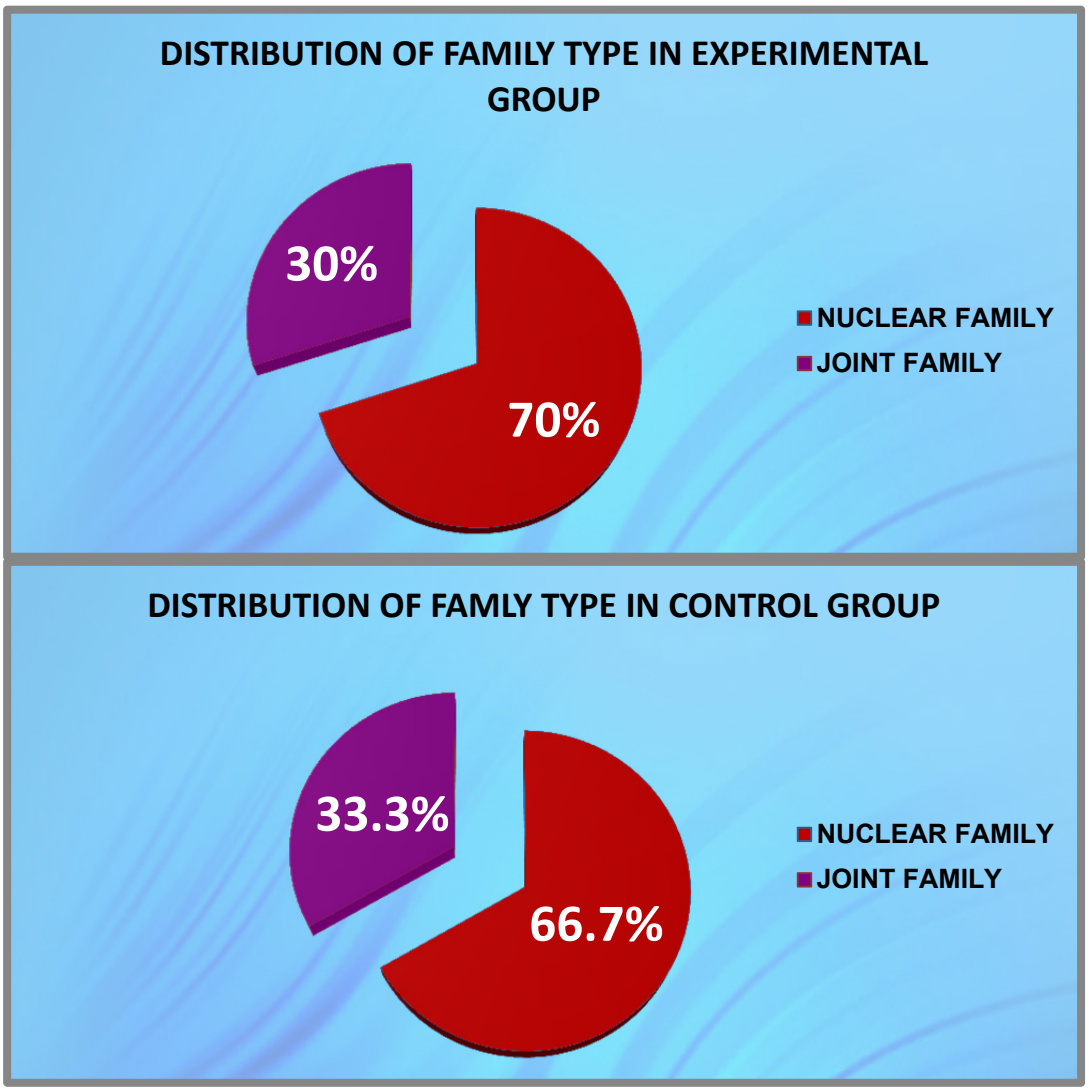



**Figure 11: Percentage distribution based on family type among adolescents both in experimental and control group**

The above pie chart illustrates that most of the subjects 70% and 66.7%were belongs to nuclear family both in experimental and control group respectively. And lower percentage 30% and 33.3% of subjects from joint family both in experimental and control group.

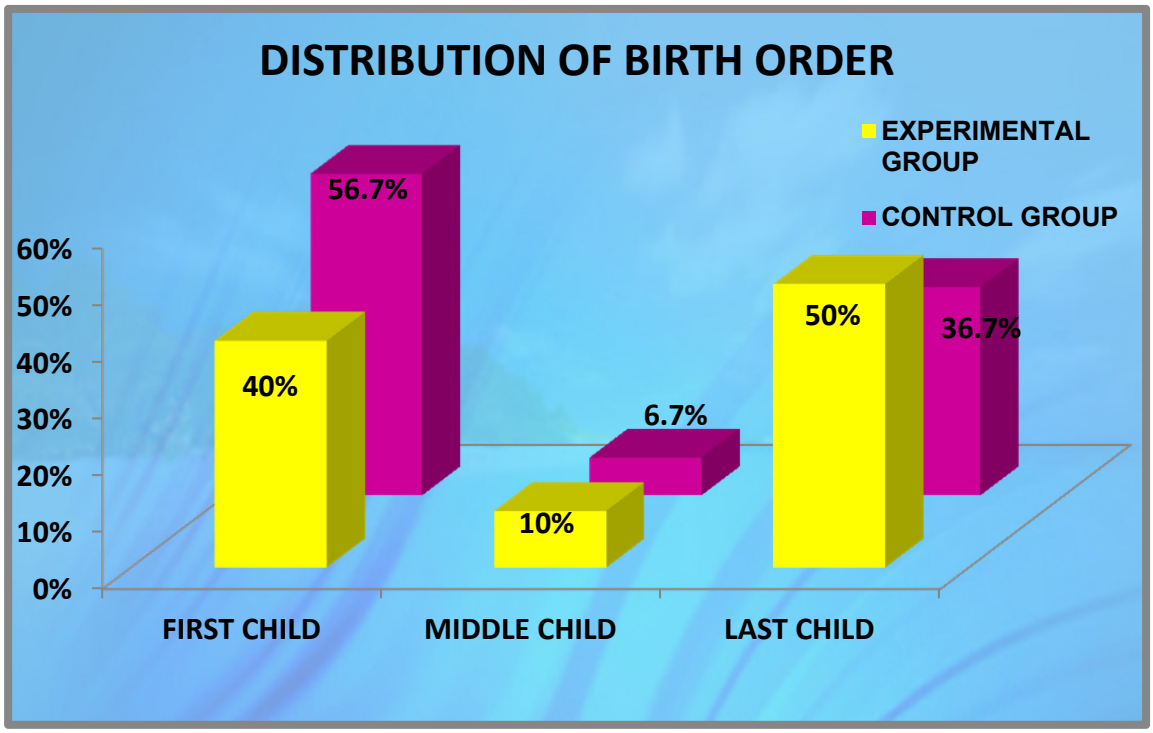



**Figure 12: Percentage distribution based on birth order among adolescents both in experimental and control group**

The above clustered bar diagram illustrates that most of the subjects 50% were last child in experimental group and 56.7% of first children were in control group. And lower percentages of students were middle children in both experimental (10%) and 6.7% in control group.

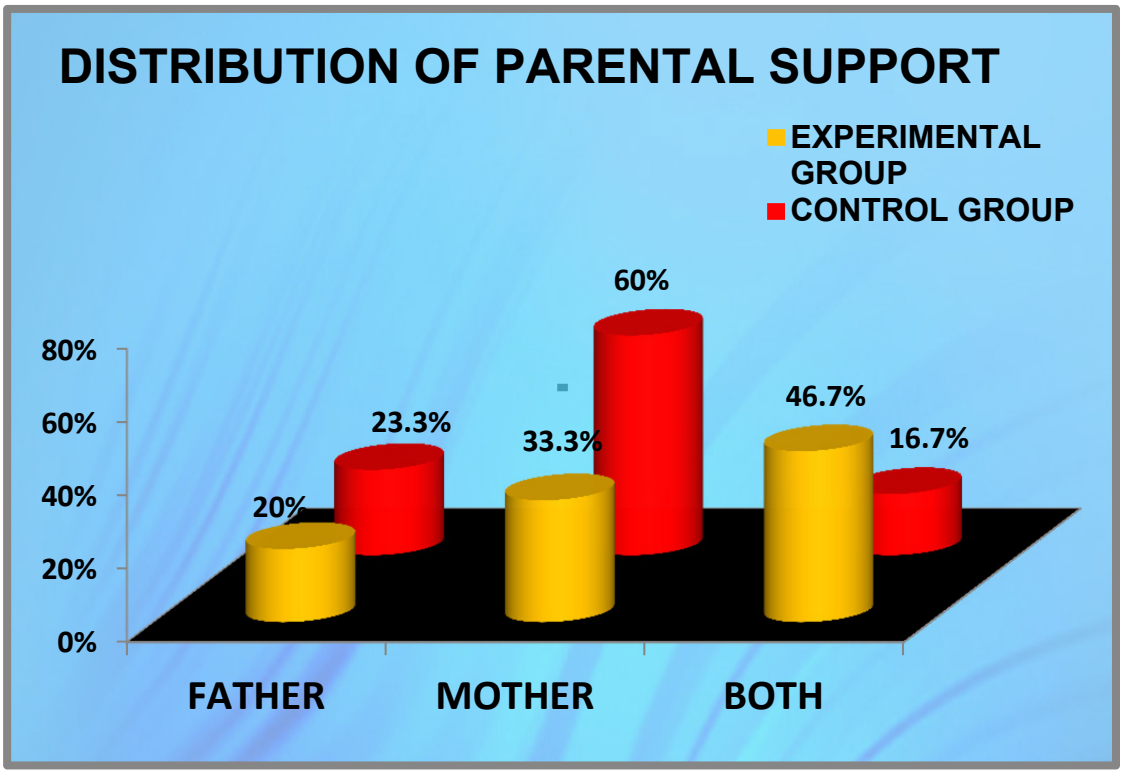



**Figure 13: Percentage distribution based on parental support among adolescents both in experimental and control group**

The above clustered cylindrical diagram shows that among experimental group 20% of the subjects were getting support from father. In control group most of the subjects (60%) were supported by mothers.

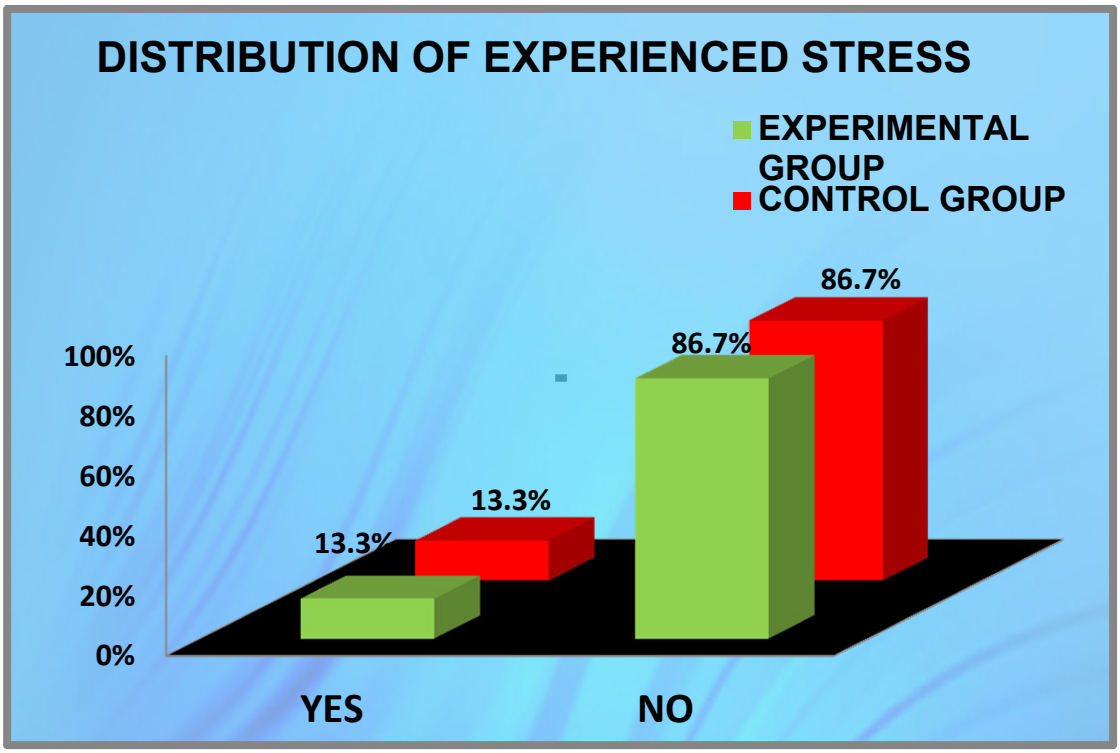



**Figure 14: Percentage distribution based on experienced stress among adolescents both in experimental and control group**

The above clustered bar diagram shows that most of the subjects (86.7%) in experimental and control group were experienced no stress. Similarly very lower percentage of the subjects 13.3% were experienced stress both in experimental and control group.

## SECTION- II

## DISTRIBUTION OF PRE TEST LEVEL OF RESILIENCE AMONG ADOLESCENTS IN EXPERIMENTAL AND CONTROL GROUP

# Table-2

**Frequency and percentage distribution of pre test level of resilience among adolescents in experimental and control group.**

**n=60**

| S.NO | RANGE | EXPERIMENTAL GROUP | | CONTROL GROUP | |
|---|---|---|---|---|---|
| | | f | % | f | % |
| 1. | Very low (<56) | 14 | 46.7% | 12 | 40% |
| | Low (57-64) | 4 | 13.3% | 6 | 20% |
| | Moderately low (65- 73) | 7 | 23.3% | 9 | 30% |
| | Moderately high (74- 81) | 5 | 16.7% | 3 | 10% |
| | High (82- 90) | 0 | 0% | 0 | 0% |
| | Very high (91- 98) | 0 | 0% | 0 | 0% |
| **TOTAL** | | 30 | 100% | 30 | 100% |

The above table shows that most of the subjects (46.7%) were very low range; 13.3% were low range; 23.3% scored moderately low range; 16.7% of them got moderately high range on Resilience scale among experimental group. In control group most of the students (40%) scored very low; 20% scored low; 30% scored moderately low; 10% scored moderately high on resilience scale. Hence none of the subjects scored high or very high score in pre test among experimental and control group.

## SECTION-III

## DISTRIBUTION OF POST TEST LEVEL OF RESILIENCE AMONG ADOLESCENTS IN EXPERIMENTAL AND CONTROL GROUP

## Table-3

**Frequency and percentage distribution of post test level of resilience among adolescents in experimental and control group.**

**n=60**

| S.NO | RANGE | EXPERIMENTAL GROUP | | CONTROL GROUP | |
|---|---|---|---|---|---|
| | | f | % | f | % |
| 1. | Very low (<56) | 0 | 0% | 12 | 40% |
| | Low (57-64) | 2 | 6.7% | 6 | 20% |
| | Moderately low (65- 73) | 10 | 33.3% | 7 | 23.3% |
| | Moderately high (74- 81) | 3 | 10% | 5 | 16.7% |
| | High (82- 90) | 12 | 40% | 0 | 0% |
| | Very high (91- 98) | 3 | 10% | 0 | 0% |
| **TOTAL** | | 30 | 100% | 30 | 100% |

The above table shows that most of the subjects (40%) scored high; 6.7% scored low; 33.3% scored moderately low; 10% of them got moderately high and very high score on Resilience scale among experimental group. In control group 40% of the students scored very low and moderately low; 20% scored low; 23.3% scored moderately low; 16.7% scored moderately high on resilience scale. Hence none of them scored very low score in post test among experimental group and very high score in post test among control group.

## SECTION-IV

## COMPARISON OF PRETEST AND POST TEST LEVEL OF RESILIENCE AMONG ADOLESCENTS IN EXPERIMENTAL AND CONTROL GROUP

### Table-4

### Pre test and post test mean score comparison to evaluate the effectiveness of yoga intervention on resilience

| S.NO | GROUP | PRE TEST MEAN SCORE | POST TEST MEAN SCORE | Mean Difference |
|---|---|---|---|---|
| 1. | Experimental Group | 59.4 | 78.3 | 18.9 |
| 2. | Control Group | 60.1 | 60.6 | 0.5 |

The above table shows that in experimental group mean score was increased from 59.4 to 78.3 and it shown that 18.9 increased in level of resilience after intervention. This indicates that yoga intervention was increased the resilience score among experimental group. In control group mean difference was only 0.5.

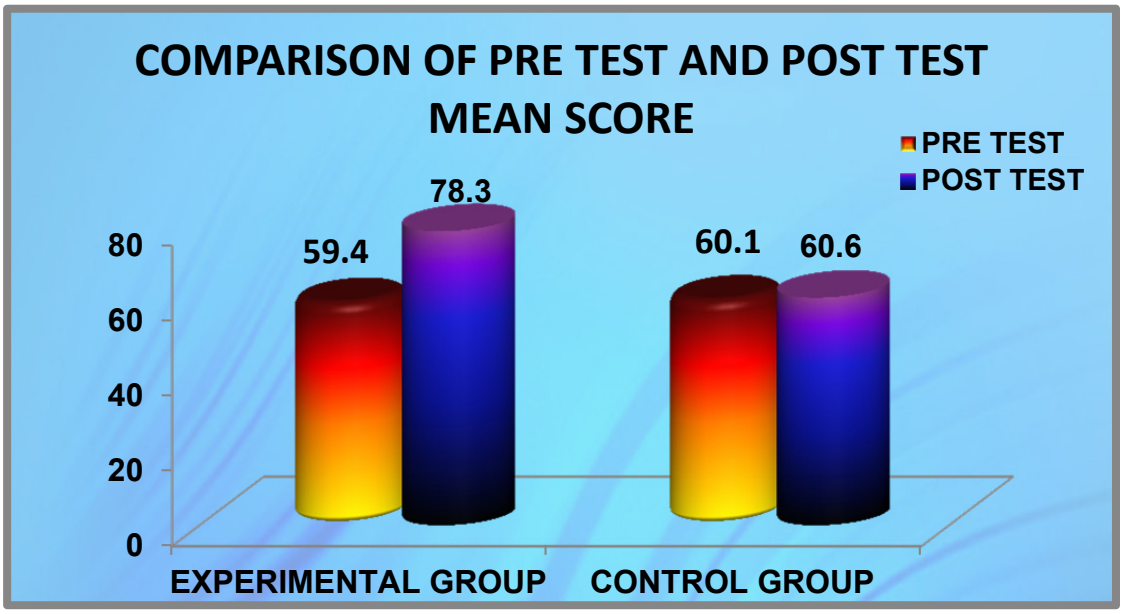



**Figure 15: Frequency distribution of pre test and post test mean score on resilience among adolescents both in experimental and control group**

The above clustered cylindrical diagram shows that in experimental group mean score 18.9 was increased in post test level of resilience after yoga intervention.

## SECTION- V

## EFFECTIVENESS OF YOGA ON LEVEL OF RESILIENCE AMONG ADOLESCENTS IN EXPERIMENTAL GROUP

# Table-5

**'t' Test to assess the effectiveness of yoga on level of Resilience among adolescents in experimental and control group**

| GROUP | EXPERIMENTAL GROUP | | | CONTROL GROUP | | | Student's Independent t- test |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Student's Dependent t- test value | Mean | SD | Student's Dependent t- test value | |
| PRE TEST | 59.4 | 12.6 | 9.608*** Significant at P < 0.001 | 60.1 | 11.31 | 1.000 Not significant at P > 0.05 | 0.223 Not significant at P > 0.05 |
| POST TEST | 78.3 | 9.48 | | 60.6 | 11.59 | | 10.599*** Significant at P < 0.001 |

The above table reveals that significant increase of resilience at 0.001 level (t=10.599) among experimental group after yoga intervention. Also within the experimental group a significant improvement were found at 0.001 level (t= 9.608). Control group had no significant changes in the level of resilience.

## SECTION-VI

## ASSOCIATION BETWEEN THELEVEL OF RESILIENCE WITH SOCIO DEMOGRAPHIC VARIABLES

**Table-6**

**Chi square test to associate the post test level of resilience among adolescents with their socio demographic variables**

| S. NO | SOCIO DEMOGRAPHIC VARIABLES | EXPERIMENTAL GROUP | | |
|---|---|---|---|---|
| | | $\chi 2$ | Df | 'P' value |
| 1 | Age<br>a) 13 years<br>b) 14 years<br>c) 15 years | 4.200 | 4 | 0.380<br>Non significant |
| 2 | Gender<br>a) Male<br>b) Female | 7.847 | 4 | 0.097<br>Not significant |
| 3 | Religion<br>a) Hindu<br>b) Christian<br>c) Muslim | 7.310 | 4 | 0.074<br>Not significant |
| 4 | Education status of father<br>a) Illiterate<br>b) Primary education<br>c) Secondary education<br>d) Higher Secondary education<br>e) Degree and above | 33.982 | 16 | 0.005**<br>**Significant at 0.01** |

| S. NO | SOCIO DEMOGRAPHIC VARIABLES | EXPERIMENTAL GROUP | | |
|---|---|---|---|---|
| | | **$\chi 2$** | **Df** | **'P' value** |
| 5 | Education status of mother<br>a) Illiterate<br>b) Primary education<br>c) Secondary education<br>d) Higher Secondary education<br>e) Degree and above | 25.907 | 16 | 0.011*<br>**Significant at 0.05** |
| 6 | Father's occupation<br>a) Unemployed<br>b) Coolie work<br>c) Self employed<br>d) Private employee<br>e) Government employee<br>f) Farmer | 16.156 | 12 | 0.184<br>Not significant |
| 7 | Mother's occupation<br>a) Unemployed<br>b) Coolie work<br>c) Self employed<br>d) Private employee<br>e) Government employee<br>f) Farmer | 11.448 | 12 | 0.491<br>Not significant |
| 8 | Family income<br>a) < Rs.2000<br>b) Rs. 2001- Rs.5000<br>c) Rs. 5001- 10000<br>d) >Rs.10,000 | 10.33 | 8 | 0.111<br>Not significant |

| S. NO | SOCIO DEMOGRAPHIC VARIABLES | EXPERIMENTAL GROUP | | |
|---|---|---|---|---|
| | | $\chi 2$ | Df | 'P' value |
| 9 | Family type<br>a) Nuclear family<br>b) Joint family | 8.492 | 4 | 0.075<br>Not significant |
| 10 | Birth order<br>a) First Child<br>b) Middle child<br>c) Last child | 24.3 | 8 | 0.002**<br>**Significant at 0.01** |
| 11 | Parental support<br>a) Father<br>b) Mother<br>c) Both | 22.157 | 8 | 0.005**<br>**Significant at 0.01** |
| 12 | Experienced stress<br>a) Yes<br>b) No | 1.731 | 4 | 0.785<br>Not significant |

The above table shows that significant association was found between the level of resilience among adolescents with their educational status of mother at 0.05 level. Moreover educational status of father, birth order and parental support were significantly associated at $p<0.01$ level among experimental group. And the remaining variables such as age, gender, religion, father's occupation, mother's occupation and experienced stress level were not associated with level of resilience significantly.

# *Discussion*

# CHAPTER-V

# DISCUSSION

***"Life doesn't get easier or more forgiving,***

***We get stronger and more resilient"***

\- ***Steve Maraboli***

The focus of this study is to evaluate the effectiveness of yoga on level of resilience among adolescents at selected school in Madurai.

The investigator adopted Quasi experimental Non equivalent control group pretest posttest design. Totally 60 subjects were selected by purposive sampling technique. Among 60 subjects, 30 subjects were assigned to each experimental group and control group respectively. The data was collected through interview technique. 14 – Items Resilience Scale of Gail M. Wagnild & Heather M. Young (1987) was used to assess the level of resilience. This research study has been discussed based on the objectives and the following supported studies.

## DISCUSSION OF SOCIO DEMOGRPHIC VARIABLES

The present study subjects were (83.3%) maximum belongs to the age group of 14 years; male subjects (60%) were more than females both in experimental and control group; 96.7% were Hindu in experimental group. Mainly the subject's fathers (53.3%) were studied up to secondary education both in experimental and control group. Similarly, majority of subject's mothers (33.3%) were not even had school education in experimental group and a good amount of the mothers (53.3%) were studied up to secondary education in control group. In experimental group, most of

the fathers (50%) were coolie and majorities (60%) were self employed in control group. As well as in experimental group the large amount of subject's mothers (46.7%) were coolie; however in control group 50% were housewives. Most of the family's income among experimental group (46.7%) and control group (63.3%) fall in between Rs. 5001- Rs. 10000. Majorities (70%) were from nuclear family in experimental group; also in control group, maximum 66.7% were from nuclear family. Nearly all of the subjects (50%) were last child in experimental group but in control group, most of them (56.7%) were first order of birth. A huge amount of the subjects (46.7%) were supported by both parents in experimental; in control group majority of them (60%) were supported by their mothers. Nearly every one of them in experimental (90%) and control group 17(85%) were experienced no stress.

**FINDINGS BASED ON THE OBJECTIVES**

**The first objective is to assess the level of resilience among adolescents in experimental group at Government Higher Secondary school, Paravai in Madurai.**

The level of resilience was assessed by 14 – Items Resilience Scale (Gail M. Wagnild & Heather M. Young, 1987). The findings were most of the subjects 46.7% had very low resilience; 13.3% had low resilience; 23.3% had moderately low resilience; 16.7% of them had moderately high resilience. Hence none of the subjects were high or very high resilience in pre test among experimental group.

In post test, most of the subjects 40% had high resilience; 6.7% had low resilience; 33.3% had moderately low resilience; 10% of them had moderately high resilience and very high resilience among experimental group. Hence none of them scored very low score in post test among experimental group.

This study was consistent with the study conducted by Lafromboise, T, Hoyt, D, Oliver, L, Whitbeck, L (2006) to find the family, Community, and School Influences on resilience among American Indian Adolescents. Baseline survey of 212 youth (115 boys and 97 girls) who were enrolled in the 5th through 8th grades was done. The study revealed that youth who displayed pro-social outcomes (60.5%) as opposed to problem behavior outcomes and 38.4 percent of the youth lived in low adversity households. The analyses identified key risk and protective factors. A primary risk factor appeared to be perceived discrimination. Protective factors were from multiple contexts: family, community and culture. Having a warm and supportive mother, perceiving community support, and exhibiting higher levels of enculturation were each associated with increased likelihood of pro-social outcomes.

**The second objective is to assess the level of resilience among adolescents in control group at Government Higher Secondary School, Munichalai in Madurai.**

The findings of the control group shows that majority 40% had very low resilience; 20% had low resilience; 30% had moderately low resilience; 10% had moderately high resilience. Hence none of the subjects were high or very high resilience in pre test.

In control group 40% of the students scored very low; 20% had low resilience; 23.3% had moderately low resilience; 16.7% had moderately high resilience. None of them had high or very high resilience in post test.

This study was consistent with the systematic review conducted by Rebecca Kate Hodder (2014) with the objective of universal school-based resilience interventions targeting adolescent tobacco, alcohol or illicit drug use. The study

participants included in this study was 5–18 years of age. The studies revealed that universal school-based resilience intervention has significant effect in reducing the prevalence of adolescent tobacco, alcohol and illicit drug use.

This study was also consistent with the study conducted by Daud, A., af Klinteberg, B., & Rydelius, P. A. (2008) to identify the resilience and vulnerability among refugee children of traumatized and non-traumatized parents. Significant differences with respect to resilience and protective factors was found in emotionality ($p < 0.01$), peer problems ($p < 0.001$), pro social behavior ($p < 0.05$), and total score ($p < 0.001$). Furthermore, the children without post traumatic stress disorder related symptoms had psychological wellbeing ($p < 0.05$), total score ($p < 0.05$), and relation to family ($p < 0.06$). The study recommended to make resilience development programme in the school environment.

**The third objective is to evaluate the effectiveness of yoga on resilience among adolescents in experimental group at Government Higher Secondary school, Paravai in Madurai.**

Yoga intervention for 6 weeks daily about 60 minutes was performed by the subjects of experimental group and no intervention was given to the control group. The effectiveness was evaluated with 14 items Resilience scale as post test. Comparison of mean score indicated that mean score of experimental group was 18.9 increased in level of resilience after an intervention. This indicated that yoga intervention was effective on resilience among adolescents.

Statistical significance was calculated by using Independent and Dependent 't' test. The findings revealed that increase of resilience in post test was highly significant at $p<0.001$ level ($t=10.599$) among experimental group after yoga

intervention. Also within the experimental group, increase of resilience was statistically highly significant at $p< 0.001$ level ($t= 9.608$) and it was attributed to the effectiveness of yoga intervention in increase of resilience among adolescents. In control group there is no significant changes in the level of resilience.

This study was consistent with the study conducted by Bo Forbes (2013) to evaluate the effects of yoga on emotional health. The study revealed that contemplative practices of yoga, such as meditation and restorative yoga help calm the nervous system and build resilience to stress. The research suggested that even a10-minutes daily yoga practice increases resilience and helps with emotional balance than a twice-weekly 90-minute practice.

This study was supported by another study conducted by Elizabeth Scott, M.S (2010) to evaluate the effectiveness of Yoga on stress relief with 48 employees. The subjects were randomized into yoga or a wait-list control group. The yoga group was offered six weeks of Yoga, comprising one hour-long lunchtime class per week with a certified Yoga instructor. Participants were administered psychological tests that measured mood and wellbeing before and after six-week period. Results showed a group that, practiced yoga only once a week for an hour for six weeks reported increased resilience to stress.

This study was also consistent with the program of The Breath of Hope Foundation, (2005) for fostering empowerment and transformation in at-risk children and communities through yoga. The programs are recognized as a tool for invigorating childhood development and for building individual resilience as a preventative buffer against future stress and trauma. A typical 18-month intervention for resilience included Comprehensive Educational, Therapeutic Intervention. And a six quarterly cycles of 3-week intensive interventions comprised of 1 to 2 hours of

yoga instruction for 5 days a week for students aged 6 to 17, followed by 3 months of guided instruction by on-site local teachers.

**Thus, $H_1$: There is a significant difference between the pretest and post test score of resilience after yoga intervention among the adolescents in experimental group was accepted.**

**The fourth objective is to associate the level of resilience among adolescents with their selected socio demographic variables.**

Statistical significance was calculated by using Chi square test. The study results revealed that significant association were found between the level of resilience among adolescents with educational status of mother at $p<0.05$ level in experimental group. Also educational status of father, birth order and parental support were significantly associated at $p<0.01$ level among adolescents in experimental group. And the remaining variables such as age, gender, father's occupation, mother's occupation and experienced stress level were not associated with level of resilience significantly.

This study was consistent with the study conducted by Janet Trinidad Schultz-León, (2012) with the objective to explore the role of culturally-based family factors (i.e., family structure, parenting style, and perceived academic support) and gender as predictors of academic resilience and academic motivation among Latino middle school students from low socioeconomic backgrounds. The sample was comprised of 98 female and 67 male participants from sixth to eighth grade (N=165) from diverse Latino ethnic backgrounds. Results revealed that perceived academic support from mothers was a significant predictor of academic motivation. In addition, the regression analyses also revealed that perceived academic support from fathers significantly predicted both academic motivation and academic resilience.

This study was also consistent with the study conducted by Buckner et al. (2003) to identify the relationship between self regulatory skills and resilience. Their study differentiated resilient from non-resilient school age children (8-17 years), and looked for significant characteristics between the two groups. Results found that children living in poverty are subjected to circumstances that are detrimental to their well-being but about 29% of their subject group did manifest resilience. No age or gender differences were found as significant.

**Thus, $H_2$: There is a significant association between the level of resilience among adolescents with their selected socio demographic variables was accepted.**

# *Summary, Conclusion & Recommendations*

# CHAPTER – VI

# SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the summary of the study and conclusions drawn. It also clarifies the implications for different areas like nursing education, administration, nursing practice, nursing research, recommendations and limitations.

## 6.1 SUMMARY

The present study was aimed to assess the effectiveness of yoga on resilience among adolescents at selected school in Madurai.

The objective of the study were

- To assess the level of resilience among adolescents in experimental group at Government Higher Secondary school, Paravai in Madurai.
- To assess the level of resilience among adolescents in control group at Government Higher Secondary School, Munichalai in Madurai.
- To evaluate the effectiveness of yoga on resilience among adolescents in experimental group at Government Higher Secondary school, Paravai in Madurai.
- To associate the level of resilience among adolescents with their selected socio demographic variables.

The following hypotheses were tested:

- $H_1$: There is a significant difference between the pretest and post test score of resilience after yoga intervention among adolescents in experimental group.

- $H_2$ : There is a significant association between the level of resilience among adolescents with their selected socio demographic variables

The investigator adopted Modified Imogene Kings Goal attainment theory (1981). Quasi experimental non equivalent control group pretest- posttest design was used in this study. The subjects were selected by using purposive sampling. The data collection tool consisted of the following :

Section A: Demographic variable

Section B: Standardized Resilience Scale of Gail M. Wagnild & Heather M. Young (1987).

The study was validated by 5 experts, including 3 Community Health Nursing experts, Director of Institute of Community Medicine, Madurai Medical College, Madurai and clinical psychologist, Govt. Rajaji Hospital, Madurai. The reliability co-efficient obtained for this tool is 0.97 and yield high validity.

Data collection was done for the period of 5 weeks from 12.08.14- 15.09.14. Based on the objectives and hypotheses, the data were analyzed by using descriptive and inferential statistics.

**MAJOR FINDINGS OF THE STUDY**

**Related to age**, Majorities (83.3%) were in the age group of 14 years both in experimental and control group.

**Based on gender**, most of the subjects (60%) were males than females (40%) both in experimental and control group.

**In regard to religion,** maximum subjects (96.7%) were Hindu both in experimental and control group.

**Based on educational status of father**, 53.3% were studied up to secondary education and only 3.3% were gone for degree and above programme both in experimental and control group.

**Based on educational status of mother**, in experimental group 33.3% were not even had school education, none of them gone for degree and above programme. Among control group, 53.3% were studied up to secondary education and the least 6.7% were gone for degree and above programme.

**In regard to father's occupation,** in experimental group50% were coolie,30% were self employed, 16.7% were government employees and 3.3% were farmers. Similarly in control group 60% were self employed, 20% were coolie workers, 20% were private employees and none of them were government employees & farmers.

**Related to mother's occupation**, 43.3% from experimental group and 50% from control group were housewives.

**About family income**, most of their salary in experimental group (46.7%) and control group (63.3%) fall in between Rs. 5001- Rs.10000.

**Regarding the type of family**, maximum (70%) and (66.7%) were from nuclear family both in experimental and control group respectively.

**In relation to birth order,** a huge amount of subjects both in experimental (50%) and control group (56.7%) were first children.

**Related to parental support**, 46.7% were supported by both father and mother in experimental group. Among control group, 60% were supported by their mothers.

**Based on experienced stress**, most of them in experimental 28(86.7%) and control group 26(86.7%) were experienced no stress.

The mean pre test level of resilience score was increased from 59.4 to 78.3. This improvement is statistically highly significant and confirmed by dependent 't' test (9.608; $p< 0.001$) and independent 't' test (10.599; $p< 0.001$)

Significant association was found between post test score of resilience and socio demographic variables. Among the socio demographic variables, educational status of mother was significant at $p< 0.05$ level. Moreover educational status of father, birth order and parental support were significantly associated at $p<0.01$.

## 6.2 CONCLUSION

Community health nurse plays an important role in health promotion among adolescents. Although the focus of nurses often includes health promotion and health protection, early detection and prompt treatment, and care of adolescents, the primary focus is on education. Registered Nurses must be cognizant of developmental tasks, level of stress and effective coping strategies, health risk behaviors, and levels of resilience when caring for adolescents.

Ultimately the nurse has the opportunity to enhance resilience and minimize high risk behaviors through assessment, education, and referral, if needed. Identifying high risk behaviors is essential to achieving positive health outcomes. Thus, screening for such behaviors and resiliency in the adolescent is critical. For adolescents with low levels of resilience, the nurse would provide appropriate follow-up care and referral as indicated. In inferential statistics of this study showed that there is an increase in level of resilience after yoga intervention when compared with pre test.

## 6.3 IMPLICATIONS OF THE STUDY

### Nursing education

- School health nurse have an important responsibility to promote resilience among adolescents as a primary prevention.
- Alternative and complementary medicines were included in the nursing curriculum. Yoga intervention is one of the best alternative systems of medicine. Its benefits were plenty for the adolescents to prevent school related problems. So that when the nurse gets an opportunity to work as a school health nurse, she can teach yoga to the adolescents to increase resiliency as a health promoting behaviour.
- Nurses who are working in community area should be expected to have thorough knowledge about assessing resilience level among adolescents during school health visit.
- Nurse educator can encourage student nurses to conduct mini project on resilience among adolescents.
- Yoga training can be provided for the student nurses at nursing schools and colleges.
- Practical training on yoga can be incorporated in nursing curriculum.
- Nurse educator can prepare a self instructional material such as self learning packages which can be placed in school.

### Nursing Administration

- The nurse administrator should organize an in service education programme to improve knowledge on nurse's assessing skills, develop competency in identifying low resilience students during school health visit.
- The nurse administrator must arrange training classes of yoga for the nurses.

- The nurse administrator can organize the workshops and hands on skill programme to develop competent skills among nurses on assessing resilience and implementing interventions.
- Nurse administrator can allocate resources for yoga training. Also the nurse administrator must enhance efficient teamwork during implementation.
- Local mass media can be used to popularize yoga as non pharmacological intervention to promote psychological well being.
- Cost effective production of module of yoga by the nursing staff should be encouraged and necessary administration support should be provided.
- The nurse administrator can motivate, supervise and guide the nurses in the preparation of resilience assessment scale which can be used for various personnel.
- The nurse administrator can recommends installing video assisted instruction regarding yoga in the schools. So that practice of yoga can be made as a part of daily routine to improve resilience among school children.
- Nurse administrator should encourage nursing students to prepare and utilize effective and visual aids on yoga intervention.

**Nursing practice**

- The nurse should educate the school children about the benefits of yoga and encourage them to practice it daily.
- Nurse can conduct school education programme on yoga to promote physical and psychological wellbeing.
- As an expanded role of a nurse, where the community health nurse can effectively and safely demonstrate yoga in increasing resilience which defines specific role of nursing practice.

- Research based evidences can be applied in fostering resilience in different community settings.
- Computer assisted instruction can be used by the nurse in school and in the community to educate.

**Nursing Research**

- The generalization of the study result can be made by replication of the study.
- Disseminate the findings through conferences, seminars and publication in journals.
- Develop network for new directions in research and collaboration in utilizing school health services in India.
- This study directs the nursing personnel's to broaden and expand their knowledge and skill to elicit problems and to conduct various researches.
- Yoga intervention on resilience can be studied more scientifically and used as a specific nursing intervention.
- The evident from the review of literature indicates more research in India need to be warranted on this study topic.

## 6.4 RECOMMEDATIONS

- Education and training can be conducted for the school teachers to identify low resilient students and recognize the importance of yoga intervention.
- The school teacher must engage the students with yoga prior to their lunch time or in the evening after the classes.
- Effectiveness of Yoga on resilience study can be replicated to produce more reviews because the investigator found that only minimal number of supportive studies was available.

- Alternate resilience fostering programmes can be conducted to evaluate the effectiveness as a primary intervention for the promotion of psychological wellbeing.
- A Similar study can be conducted with the larger size for wider generalization of findings.
- The study can be conducted in other settings.
- Case control and cohort studies can be conducted to find out the associative factors related to resilience.
- The study can be conducted as a true experimental design and as comparative study.

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# *Appendices*

# APPENDIX- I

## SECTION -A: DEMOGRAPHIC PROFILE

1. Age (completed)
   a) 13 years
   b) 14 years
   c) 15 years

2. Gender
   a) Male
   b) Female

3. Religion
   a) Hindu
   b) Christian
   c) Muslim

4. Education status of father
   a) Illiterate
   b) Primary education
   c) Secondary education
   d) Higher Secondary education
   e) Degree and above

5. Education status of mother
   a) Illiterate
   b) Primary education
   c) Secondary education
   d) Higher Secondary education
   e) Degree and above

6. Father's occupation
   a) Unemployed
   b) Coolie work
   c) Self employed
   d) Private employee
   e) Government employee
   f) Farmer

7. Mother's occupation
    a) Unemployed
    b) Coolie work
    c) Self employed
    d) Private employee
    e) Government employee
    f) Farmer

8. Family income
    a) < Rs.2000
    b) Rs. 2001- Rs.5000
    c) Rs. 5001- 10000
    d) >Rs.10,000

9. Family type
    a) Nuclear family
    b) Joint family

10. Birth order
    a) First Child
    b) Middle child
    c) Last child

11.From whom do you get more support?
    a) Father
    b) Mother
    c) Both

12. Have you experienced distress from any recent stressors?
    a) Yes
    b) No

**THE 14- ITEMS RESILIENCE SCALE**

| S. No | ITEM | 1-Strongly disagree | 2-Moderately disagree | 3- Slightly disagree | 4- Neutral | 5- Slightly Agree | 6- Moderately Agree | 7- Strongly agree |
|---|---|---|---|---|---|---|---|---|
| 1. | I usually manage one way or another. | | | | | | | |
| 2. | I feel proud that I have accomplished things in life. | | | | | | | |
| 3. | I usually take things in stride. | | | | | | | |
| 4. | I am friends with myself. | | | | | | | |
| 5. | I feel that I can handle many things at a time. | | | | | | | |
| 6. | I am determined. | | | | | | | |
| 7. | I can get through difficult times because I've experienced difficulty before. | | | | | | | |
| 8. | I have self-discipline. | | | | | | | |
| 9. | I keep interested in things. | | | | | | | |
| 10. | I can usually find something to laugh about. | | | | | | | |
| 11. | My belief in myself gets me through hard times. | | | | | | | |
| 12. | In an emergency, I'm someone people can generally rely on. | | | | | | | |
| 13. | My life has meaning. | | | | | | | |
| 14. | When I'm in a difficult situation, I can usually find my way out of it. | | | | | | | |

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**APPENDIX- II**

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À¡÷¨ÅÂø ¸¡ Ï õ ¸Ê¾í¸Ç ý ÀÊ, ÁÐ¨Ã ÁÕòÐÅì¸øæ¡Âø M.Sc., ¿÷º í Ó¾Ä¡Á ñ Î ÀÂÖõ ¸ú¸ ñ¼ Á¡½Å¸û «Å÷¾õ ¦ÀÂ÷¸Ù ì Ì ±¾§ÃÔûÇ ÀûÇ¸Çø ÀÂüº Å Ì ôÒ ± Î ì¸ « ÛÁ¾ ¬¨½ ÅÆí¸ôÀ Î ¸ÈÐ. §ÁÖõ ÀûÇ¸Çø ¿¨¼¦ÀÚõ Å Ì ôÒ¸Ù ì Ì ±ùÅ¾ þ¨¼äÚÁ¢ý È Å Ì ô¨À ± Î ì¸ «È×Úò¾ôÀ Î ¸È¡÷¸û.

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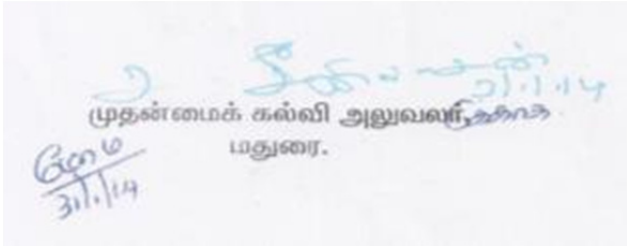


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# LETTER SEEKING PERMISSION TO CONDUCT STUDY

From

Mrs.Amuthasanthi.A
I year M.Sc., Nursing,
College of Nursing,
Madurai Medical College,
Madurai-20.

To

The Deputy Director of health Services,
Vishwanathapuram,
Madurai.

Deputy Director
of Health Services
Madurai-14

Through the proper channel

Respected Sir/ Madam,

Sub: Requesting permission to conduct a Dissertation Study in Government Higher Secondary School at Paravai, Madurai -- reg.

As per the curriculum recommended by the Indian Nursing Council and The Tamilnadu Dr.M.G.R Medical University, the M.Sc., Nursing students are required to conduct a dissertation Study for the partial fulfillment of the course. I have selected a study topic **"A study to evaluate the effectiveness of Yoga on Resilience among Adolescent studying in Government Higher secondary school at Paravai, Madurai"** for my dissertation.

I kindly request you to consider my letter and allow me to conduct the study.

Thanking you.

Madurai-20

04.01.2014

yours sincerely,

Forwarded for consideration
S.P
7/1/14

## LETTER SEEKING PERMISSION TO CONDUCT STUDY

From

Mrs.Amuthasanthi.A
I year M.Sc., Nursing,
College of Nursing,
Madurai Medical College,
Madurai-20.

To

The Head Master,
Govt. Higher Secondary School,
Paravai,
Madurai.

Through the proper channel

Respected Sir/ Madam,

Sub: Requesting permission to conduct a Dissertation Study in Government Higher Secondary School at Paravai, Madurai -- reg.

As per the curriculum recommended by the Indian Nursing Council and The Tamilnadu Dr.M.G.R Medical University, the M.Sc., Nursing students are required to conduct a dissertation Study for the partial fulfillment of the course. I have selected a study topic **"A study to evaluate the effectiveness of Yoga on Resilience among Adolescent studying in Government Higher secondary school at Paravai, Madurai"** for my dissertation.

I kindly request you to consider my letter and allow me to conduct the study.

Thanking you.

Madurai-20

31.07.2014

yours sincerely,

A. Ali

(AMUTHASANTHI.A)

Headmaster
Govt. Hr. Sec. School
Paravai - 625 402

Forwarded
S.P.
21/7/14
Principal
COLLEGE OF NURS
Madurai Medical Colles
Madurai-20.

## LETTER SEEKING PERMISSION TO CONDUCT STUDY

From

Mrs.Amuthasanthi.A
II year M.Sc., Nursing,
College of Nursing,
Madurai Medical College,
Madurai-20.

To

The Head Mistress,
Goverment Higher Secondary School
Munichalai
Madurai-09

Through the proper channel

Respected Madam,

Sub: Requesting permission to conduct a Study in Goverment Higher Secondary School Munichalai at Madurai -- reg.

As per the curriculum recommended by the Indian Nursing Council and The Tamilnadu Dr.M.G.R Medical University, the M.Sc., Nursing students are required to conduct a dissertation Study for the partial fulfillment of the course. I have selected a study topic **"A study to evaluate the effectiveness of Yoga on Resilience among adolescents studying in Goverment Higher Secondary School,Munichalai at Madurai-09" for my dissertation**

I kindly request you to consider my letter and allow me to conduct the study in your school.

Thanking you.

Madurai-20

08.8.14

yours sincerely,

(AMUTHASANTHI.A)

8/8/14

Principal

M. VIJAYA, M.Sc (Nursing, OBG)
LECTURER IN NURSING,
COLLEGE OF NURSING
MADURAI MEDICAL COLLEGE,
MADURAI - 20.

8/8/14

# APPENDIX- III

**Ref. No. 68/E4/2/2014,** **Govt. Rajaji Hospital,**
**Madurai.20. Dated:26.02.2014**

**Institutional Review Board / Independent Ethics Committee.**
**Capt. Dr.B. Santhakumar, M.D., (F.M.,)** deanmdu@gmail.com
Dean, Madurai Medical College &
Govt Rajaji Hospital, Madurai 625020. **Convenor**

**Sub:** Establishment-Govt. Rajaji Hospital, Madurai-20-
Ethics committee-Meeting Minutes- for February 2014
Approved list - Regarding.

---

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 07.02.2014, Friday at 10.00 am to 12.00.noon at the Anaesthesia Seminar Hall, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

---

| | | |
|---|---|---|
| 1.Dr.V. Nagarajan, M.D., D.M (Neuro)<br>Ph: 0452-2629629<br>Cell.No 9843052029<br>nag9999@gmail.com | Professor of Neurology<br>(Retired)<br>D.No.72, Vakkil New Street,<br>Simmakkal, Madurai -1 | Chairman |
| 2. Dr.Mohan Prasad , M.S M.Ch<br>Cell.No.9843050822 (Oncology )<br>drbkcmp@gmail.com | Professor & H.O.D of Surgical<br>Oncology(Retired)<br>D.No.32, West Avani Moola Street,<br>Madurai -1 | Member<br>Secretary |
| 3. Dr. Parameswari M.D (Pharmacology)<br>Cell.No.9994026056<br>drparameswari@yahoo.com | Director of Pharmacology<br>Madurai Medical College | Member |
| 4. Dr.S. Vadivel Murugan, MD.,<br>(Gen.Medicine)<br>Cell.No 9566543048<br>svadivelmurugan_2007@rediffmail.com | Professor& H.O.D of Medicine<br>Madurai Medical College | Member |
| 5. Dr.S. Meenakshi Sundaram, MS<br>(Gen.Surgery)<br>Cell.No 9842138031<br>drsundarms@gmail.com | Professor & H.O.D of Surgery<br>Madurai Medical College | Member |
| 6. Mrs. Mercy Immaculate<br>Rubalatha, M.A., Med.,<br>Cell. No. 9367792650<br>lathadevadoss86@gmail.com | 50/5, Corporation Officer's<br>quarters, Gandhi Museum Road,<br>Thamukam, Madurai-20 | Member |
| 7. Thiru..Pala. .Ramasamy , BA.,B.L.,<br>Cell.No 9842165127<br>palaramasamy2011@gmail.com | Advocate,<br>D.No.72.Palam Station Road,<br>Sellur, Madurai -2 | Member |
| 8. Thiru. P.K.M. Chelliah ,B.A<br>Cell.No 9894349599<br>pkmandco@gmail.com | Businessman, 21 Jawahar Street,<br>Gandhi Nagar, Madurai-20 | Member |

The following Projects was approved by the committee.

| Name of P.G. | Course | Name of the Project | Remarks |
|---|---|---|---|
| A. Amuthasanthi | M.Sc., (Nursing) College of Nursing, Madurai Medical College, Madurai. | A study to assess the effectiveness of yoga on resilience among adolescents in a selected school, at Paravai, Madurai. | Approved |

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain it Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government.

2. She/He should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She/He should not deviate the area of the work for which applied for Ethical clearance.

She/He should inform the IEC immediately, in case of any adverse events or Serious adverse reactions.

4. She/He should abide to the rules and regulations of the institution.

5. She/He should complete the work within the specific period and if any

Extension of time is required He/She should apply for permission again and do the work.

6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She/He should not claim any funds from the institution while doing the work or on completion.

8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.

**Member Secretary** **Chairman**
**Ethical Committee**

26.2.14
**DEAN/Convenor**
**Govt. Rajaji Hospital,**
**Madurai- 20.**

24/2/14

**To**
**The above Applicant**
**-thro. Head of the Department concerned**

# APPENDIX- IV

## CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION- A: Demographic variables

SECTION- B: 14 items Resilience Scale

Prepared for data collection by **AMUTHASANTHI.A**, II year M.Sc., (N) student, college of Nursing, Madurai Medical College , Madurai who has undertaken the study field on thesis entitled **" EFFECTIVENESS OF YOGA ON RESILIENCE AMONG ADOLOSCENTS STUDYING IN GOVERNMENT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI"** has been validated by me.

NAME : DR. M. SALEEM

DESIGNATION : DIRECTOR INCHARGE
INSTITUTE OF COMMUNITY MEDICINE

DATE : 6.8.14

SIGNATURE OF THE EXPERT

M. Saleem
6/8/14

DIRECTOR I/C
INSTITUTE OF COMMUNITY MEDICINE
MADURAI MEDICAL COLLEGE
MADURAI.

**CERTIFICATE OF VALIDATION**

This is to certify that the tool

SECTION- A: Demographic variables

SECTION- B: 14 items Resilience Scale

Prepared for data collection by **AMUTHASANTHI.A**, II year M.Sc., (N) student, college of Nursing, Madurai Medical College , Madurai who has undertaken the study field on thesis entitled **" EFFECTIVENESS OF YOGA ON RESILIENCE AMONG ADOLOSCENTS STUDYING IN GOVERNMENT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI"** has been validated by me.

NAME : N. SURESH KUMAR

DESIGNATION : Asst. Prof. Cum Clinical Psychologist

DATE : 18/7/14

SIGNATURE OF THE EXPERT

N. SURESH KUMAR. M.A., M.Phil.
Asst. Prof. Cum Clinical Psychologist
Dept. of Psychiatry
Madurai Medical College
Madurai-20.

## CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION- A: Demographic variables

SECTION- B: 14 items Resilience Scale

Prepared for data collection by **AMUTHASANTHI.A**, II year M.Sc., (N) student, college of Nursing, Madurai Medical College , Madurai who has undertaken the study field on thesis entitled **" EFFECTIVENESS OF YOGA ON RESILIENCE AMONG ADOLOSCENTS STUDYING IN GOVERNMENT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI"** has been validated by me.

NAME : JULIET SYLVIA

DESIGNATION : Professor, Sacred Heart Nursing College.

DATE : 22/8/14.

SIGNATURE OF THE EXPERT

22/8/14

## CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION- A: Demographic variables

SECTION- B: 14 items Resilience Scale

Prepared for data collection by **AMUTHASANTHI.A**, II year M.Sc., (N) student, college of Nursing, Madurai Medical College , Madurai who has undertaken the study field on thesis entitled **" EFFECTIVENESS OF YOGA ON RESILIENCE AMONG ADOLOSCENTS STUDYING IN GOVERNMENT HIGHER SECONDARY SCHOOL AT PARAVAI, MADURAI"** has been validated by me.

NAME : VEMBU.K

DESIGNATION : Associate Professor

DATE : 25.7.14

SIGNATURE OF THE EXPERT

**CERTIFICATE OF TAMIL EDITING**

**TO WHOMSOVER IT MAY CONCERN**

This is to certify that the dissertation **"A study to evaluate the effectiveness of Yoga on resilience among adolescent studying in Government Higher Secondary School at Paravai, Madurai"** done by Mrs.Amuthasanthi.A , M.Sc., Nursing II year student, college of Nursing, Madurai Medical College, Madurai-20 has been edited for Tamil language appropriateness.

Name: S. ARUN

Designation: Tamil Teacher

Institution: Hindu Higher Secondary School Kannankulam.

S. Arun.

Signature

**CERTIFICATE OF ENGLISH EDITING**

**TO WHOMSOVER IT MAY CONCERN**

This is to certify that the dissertation **"A study to evaluate the effectiveness of Yoga on resilience among adolescent studying in Government Higher Secondary School at Paravai, Madurai"** done by Mrs.Amuthasanthi.A ,M.Sc., Nursing II year student, college of Nursing, Madurai Medical College, Madurai-20 has been edited for English language appropriateness.

Name: T. Rathy, MA, B.Ed, M.phil

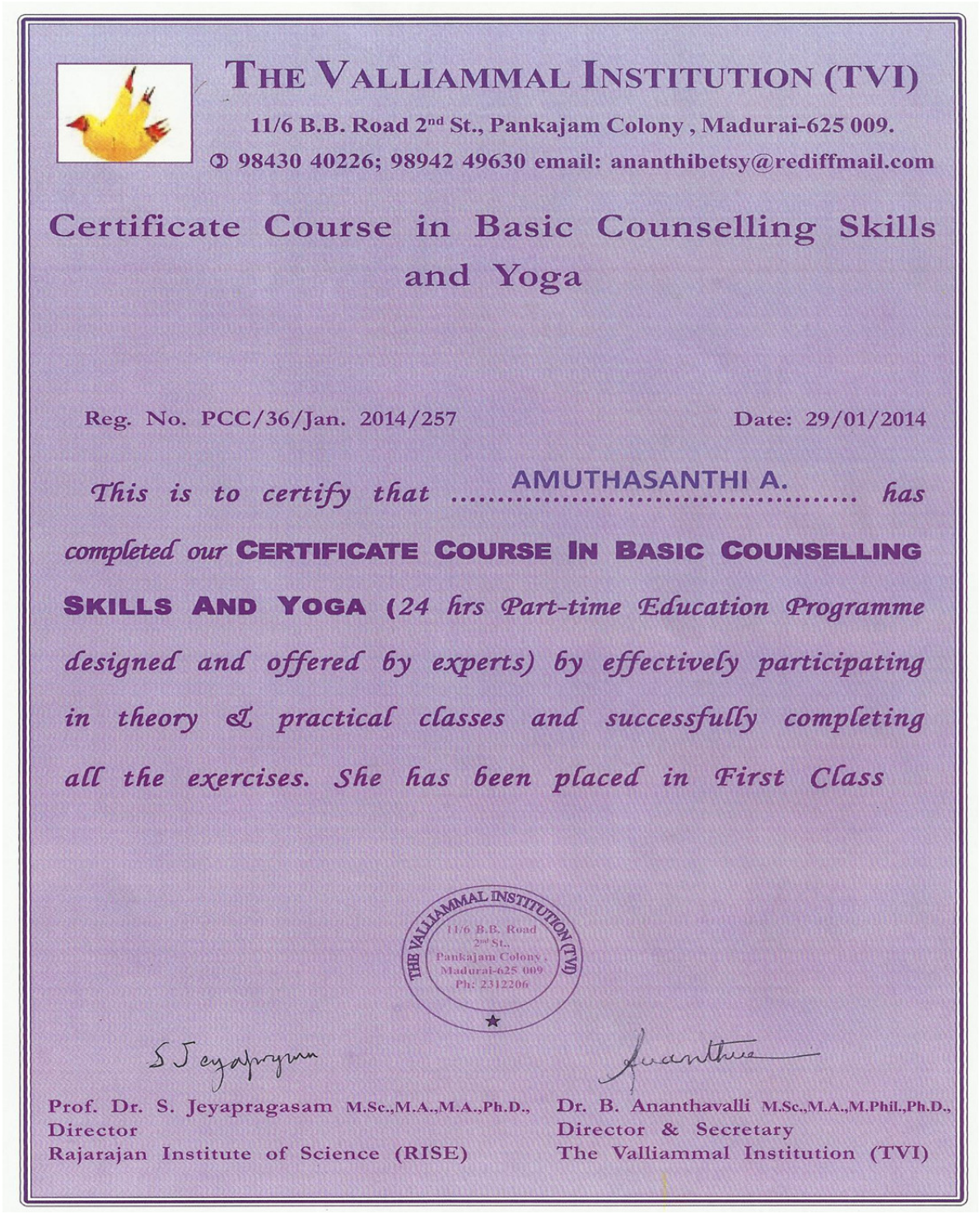
Designation: Assistant Professor

Institution: Vins Christian Women's College of Engineering

Rathy

Signature

# APPENDIX- V



THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2nd St., Pankajam Colony , Madurai-625 009.

✆ 98430 40226; 98942 49630 email: ananthibetsy@rediffmail.com

## Certificate Course in Basic Counselling Skills and Yoga

Reg. No. PCC/36/Jan. 2014/257 Date: 29/01/2014

*This is to certify that* AMUTHASANTHI A. *has completed our* **CERTIFICATE COURSE IN BASIC COUNSELLING SKILLS AND YOGA** *(24 hrs Part-time Education Programme designed and offered by experts) by effectively participating in theory & practical classes and successfully completing all the exercises. She has been placed in First Class*

THE VALLIAMMAL INSTITUTION (TVI) 11/6 B.B. Road 2nd St., Pankajam Colony, Madurai-625 009 Ph: 2312206

Prof. Dr. S. Jeyapragasam M.Sc.,M.A.,M.A.,Ph.D.,
Director
Rajarajan Institute of Science (RISE)

Dr. B. Ananthavalli M.Sc.,M.A.,M.Phil.,Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)

## APPENDIX- VI

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# APPENDIX- VII

## YOGA INTERVENTION PROCEDURE

Yoga intervention was given for 60 minutes daily for 6 weeks.

The steps of Yoga intervention were:

A. Simple yogic exercises- 10 minutes
B. Asanas- 10 minutes
C. Breathing regulation ( pranayama) - 10 minutes
D. Mantra yoga- 10 minutes
E. Guided Meditation - 10 minutes
F. Anantha yoga- 5 minutes
G. Savasana- 5 minutes

### A. SIMPLE YOGIC EXERCISES

Instructed the students to relax their body with simple warm up exercises from toes to head.

### B. ASANAS

Asana is yoga pose or posture or position of the body. Patanjali in ashtanga yoga defines asanas as Steady and Comfortable pose.

### 1.PADMASANA (The Lotus Position)

It is true meditation posture, which gives utmost mental concentration and equilibrium. Though it appears to be the simple form, the correct practice of Padmasana gives enlightenment to the mind and body. The posture is in the form of "jnana mudra" which represents the source of knowledge. The index represents the individual soul and the thumb represents the universe.

## Technique

1. Be seated and stretch both the legs in front to ensure that the spine is straight and firm. Breathe in normal position

2. The left foot is to be placed on the right thigh and right foot on the left thigh. Ensure that the heels are pressed against the lower part of the abdomen. Stretch both the hands and make a circular shape with the thumb and index finger.

3. Hold in this posture for about 2 or 3 minutes with uniform breathing. It will be an added advantage to meditate in this posture. Better to close the eyes while meditating.

4. Sit for 15 seconds, Loosen the fingers of both the hands. Then slowly lift the right leg with help of hand and place the same on the floor in order to come back to original position.

## 2.YOGA MUDRA (SEALING POSE)

### Position

1. Sit upright in padmasana.

### Technique

1. Place the left hands behind your back make a first.
2. Grasp the left wrist with the right hand, placing your hands at the end of the spinal cord.
3. This spot is known as the center of energy. Hold the arms as straight as possible.
4. While exhaling bend the body forward, keeping the hands at the back.
5. Touch the floor with the forehead.
6. Holding the wrist, raise the arms as high as possible while keeping them straight.
7. Breathe normally. While inhaling, return to the upright position.
8. Reverse the process for the right wrist.

## 3.VAJRASANA

'Vajra' refers to 'diamond' and this yogic posture resembles diamond. More particularly, this exercise is very useful and invaluable as it retains youthfulness and vigor.

**Technique**

1. Start the position as in above figure.
2. Fold the knees as shown in posture. Place the hands over the knee with elbow straight.
3. Ensure that the head, the back, wrist are straight.
4. The entire body weight should ret on the heels.

**4.JANU SHIRSHASANA: (Touching the Head on the Knee)**

In this yogic posture one leg has to be stretched out and the other should be at the knee. 'Janu' refers to the 'knee'. 'Shirsha' refers to the 'head'.

## Technique

1. Sit on the ground with the legs stretched as in above figure.
2. Slowly bend the left leg and place near the thigh of the right leg. Stretch the arms forward and place near the right foot and hold with the hands. Exhale slowly and move the trunk forward.
3. Exhale slowly and gradually move the trunk forward so that the chin is placed on the right leg.
4. Inhale slowly, raise the head and trunk. Release the hand's grip and straighten the legs in order to come back to normal position.
5. Practice this exercise for both the legs.

**5.USHTRASANA: (Camel Posture)**

## Technique

1. Sit in Vajrasana.
2. Exhale slowly and get up and place the right palm over right heel and left palm over the left heel. The back should be straight.
3. Keep the neck stretched back.
4. Stay in this position for about 30 seconds with normal breathing.
5. Release the hands slowly one by one and resume the normal position.

**6.TRIDONASANA: (Triangle Posture)**

"Trikona" refers to 'triangle' and this exercise exhibits revolving triangular posture.

**Technique**

1. Stand firmly and keep the legs straight.
2. Inhale, move the legs about 3 to 4 feet from one another. The knees and body should be straight. Raise both hands to the level of shoulder to the respective side.
3. Turn right foot towards right side at 90 degrees to the right and turn left foot slightly to the right.
4. Exhale slowly and simultaneously lower the right hand palm in order to place the palm on the ground and raise the left hand upward, and see the tips of the left-hand fingers.
5. Hold this position for about a minute and while doing so breathing should be deep and even.
6. After that come back to the normal position. Repeat the same on the other side.

**7. MAHAVEER ASANA (Warrior Pose)**

Veer refers to'warrior' in Sanskrit. In this posture the body assumes the position a warrior takes before attacking. Hence the name Veerasana or Warrior pose.

1. Stand erect and keep the feet about two feet apart.
2. Take hands backward, crossing the arms at the elbows.
3. Extend the left leg one-foot ahead.
4. While exhaling, bend the head and touch the knee with the forehead.
5. Retain this pose for a while. Inhaling, come to the original position repeat with the right leg extended

## 8. ARTHAMATHSYASANA

In this posture the person Seated Twist.

1. Sit with the legs straight and relax the whole body.
2. Place the sole of the right foot flat on the floor on the outside of the left knee.
3. Bend the left leg and lay the left heel beside the right buttock. Both buttocks remain on the floor.
4. The back is upright and relaxed.
5. Bring the left arm to the outside of the right knee and grasp the right ankle.
6. Turn the upper body as far as possible to the right, place the right arm across the back and look over the right shoulder.
7. Breathing normally remain for a few minutes in this position and relax the whole body.
8. Slowly return to the starting position. Practice the exercise to the other side.

**9.TADASANA**

This is the basic and the starting yogic exercise. "Tada" refers to a mountain. This refers to stand like a mountain. This is nothing but to know the correct standing position.

**Technique**

1. Stand firmly and keep both the feet together. The knees should be straight and keep the hands tight and firm. Concentrate on a particular object and keep the mind calm and relaxed.
2. Lift the hands slowly and perform Namaskar (Salute). The head and chest should be firm and straight
3. Start inhalation deeply, and lift the heels slowly as shown in the figure. Stay for few seconds and then exhale slowly and keep down the heel to the normal position and relax for few seconds.
4. Practice this exercise for 2 or 3 times depending

**10.VRIKSHASANA: (The Tree Posture)**

This refers to a symbolic representation of Tree.

**Technique**

1. Stand as mentioned in figure.
2. Slowly bend the right leg and join the feet of the right leg to; the root of left thing.
3. Raise both the hands and stretch above the head and join the palms and fingers together.
4. Keep concentrating and focus on a particular object.
5. Stay for about 10 to 15 seconds and breathe deeply.
6. Alternatively practice this exercise on left side also.

**C. BREATHING REGULATION (PRANAYAMA)**

**Technique**

1. Right nostril is Pingala Nadi(Sun principle or body), left nostril represents Ida nadi (moon principle or mind).
2. In alternate nostril breathing, one inhales through right and exhales through left then inhales through left and exhales through right nostril in sitting position.
3. Initially 4 seconds inhale through left and exhale for 6 seconds through right nostril, then inhale through right for 4 seconds and exhale through left for 6 seconds can be practiced for about 5 minutes. The practice can be up to 5 minutes initially but slowly one can increase it to 15 minutes safely.

**D. MANTRA YOGA**

Mantra Chanting has soothing effect on Nervous System, helps relax the muscles, can be effectively used to reduce stress and its effects.

**Steps:**

1. Sit with comfortable procedure and close your eyes.
2. Asked the subjects to repeat the words "AUM" for 10 minutes.

**E. GUIDED MEDITATION**

- Sit with comfortable position and close the eyes.
- Imagine that you are in a beautiful place. Walking towards the water falls.
- On the way you are seeing grasses with dews.
- Then look at different colour flowers. Touch the flowers and feel its softness.
- See the birds are singing. Hear the melodies of the birds.
- Go near to the water falls. The water is glittering like gold.
- Take some water in your hand and clean your face. Now your face is brighten like a sun and glittering like gold.
- Feel your happiness. Feel you have beautiful face that everyone likes.

- You feel so refreshed now. Your negative thoughts like anger, hatred, loneliness, inferiority everything goes off. Your mind is engaged with full of happiness, joy, peace and patience. You feel yourself as a good friend.
- You are born to win. You have unique identity. You can achieve anything. You can able to manage the problems by yourself. You have enough potential. Feel your strength.
- Concentrate on your head, feel the circulation of your head. Say thanks to your brain.
- Concentrate on your face. Feel the warmth of your circulation.
- Concentrate on your neck. Relax well.
- Concentrate on your chest. Take deep respiration. Feel your chest movements. Say thanks to lungs for making you to survive. Feel your heart sounds. Say ‘ I love my heart’
- Concentrate on your abdomen. Relax well.
- Concentrate on your back. Feel the blood circulation.
- Concentrate on your extremities and relax it well. Say thanks to your extremities for helping in all the way to care yourself.
- Take a deep breath and relax. Say ‘ I love myself’.
- Open your eyes slowly.

**F. ANANTHA YOGA**

The investigator made the subjects to sing a song along with her. Then made them to laugh.

**G. SAVASANA (corpse pose)**

The name comes from the Sanskrit words Śhava means "corpse", and Āsana means"posture" or "seat".

**Technique**

1. Lying on the back, the arms and legs are spread at about 45 degrees, the eyes are closed and the deep breath.

## APPENDIX-VIII

# ADOLESCENTS PERFORMING YOGA

## ASANAS

## BREATHING REGULATION (PRANAYAMA)

## GUIDED MEDITATION


## ANANDHA YOGA